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EPIDERMODYSPLASIA VERRUCIFORMIS (LEWANDOWSKY AND LUTZ)

REPORT OF TWO CASES

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BELO-HORIZONTE, BRAZIL

Epidermodysplasia verruciformis was described for the first time in 1922 by Lewandowsky and Lutz.[1] Nine years later, in 1931, Mashkilleison [2] collected 24 cases published in medical literature all over the world. In September 1939 Sullivan and Ellis [3] reported 18 other cases observed, thus making a total of 42. We have no knowledge of any cases published in Brazil and believe ours are the first. According to the general revision made by Mashkilleison and Sullivan and Ellis, the cases of familial incidence published up to that time were those of Sézary and Lévy-Coblentz (father, brother and sister) and those of Masaki (3 sisters).

In the cases to be reported the patients were brother and sister whose parents were cousins; the lesions were generalized and appeared at the age of 9 years in both patients. The girl had localized lesions in the axillary fossae and on the external genitalia and palms. The man presented a squamous cell epithelioma, confirmed by histologic examination, in the left parotid region.

1. Lewandowsky, F., and Lutz, W.: Ein Fall einer bisher nicht beschriebenen Hauterkrankung (Epidermodysplasia Verruciformis), Arch. f. Dermat. u. Syph. **141**:193, 1922; cited by Sullivan and Ellis.[3]

2. Mashkilleison, L. N.: Ist die Epidermodysplasia verruciformis (Lewandowsky-Lutz) eine selbständige Dermatose? Ihre Beziehungen zur Verrucositas, Dermat. Wchnschr. **92**:569, 1931; cited by Sullivan and Ellis.[3]

3. Sullivan, M., and Ellis, F. A.: Epidermodysplasia Verruciformis (Lewandowsky and Lutz), Arch. Dermat. & Syph. **40**:422 (Sept.) 1939.

It is interesting to point out the greater number of cases observed among Japanese. Is this due to better knowledge of the disease or to racial predisposition? In Brazil, in the state of São Paulo the Japanese settlement is large, but nevertheless no case has yet been met with.

In the differential diagnosis epidermodysplasia verruciformis should be distinguished from verrucae planae juveniles, verruca vulgaris and acrokeratosis verruciformis of Hopf. As regards the follicular dyskeratosis of Darier and lichen planus, we are of the same opinion as Wise and Satenstein,[4] namely, that the differential diagnosis presents no great difficulties. Certain authors call attention also to the papular and reticular

Fig. 1 (case 1).—Epidermodysplasia verruciformis of Lewandowsky and Lutz. The papules are flat, scaly, isolated or confluent, oval, circular or polygonal and rose colored.

papillomatosis of Gougerot and Carteaud. As regards treatment, this was applied only to combat the cancerous complications.

Our cases constitute typical instances of epidermodysplasia verruciformis, and the disease corresponds perfectly to the classic description given by Lewandowsky and Lutz.[5] Indeed one of our illustrations (fig. 1) resembles closely the one numbered 3850 in Nékám's Atlas.[6]

4. Wise, F., and Satenstein, D. L.: Epidermodysplasia verruciformis (Lewandowsky-Lutz), Arch. Dermat. & Syph. **40**:742 (Nov.) 1939.

5. Lewandowsky, F., and Lutz, W.: Epidermodysplasia verruciformis, in Darier, J., and others: Nouvelle pratique dermatologique, Paris, Masson & Cie, 1936, vol. 6, p. 685.

6. Nékám, L.: Corpus Iconum Morborum Cutaneorum, Leipzig, Johann Ambrosius Barth, 1938, vol. 5, pt. 3.

REPORT OF CASES

CASE 1.—J. M. E., 21 years old, white, single, Brazilian, a farm hand, residing at Oliveira, state of Minas Geraes, Brazil, was admitted to Prof. Antonio Aleixo's ward on April 19, 1941.

Family History.—The father died of pneumonia; the mother was alive and well; they were cousins. Four children were living, three of them healthy and one, a girl (case 2), suffering from epidermodysplasia verruciformis of Lewandowsky and Lutz.

Fig. 2 (case 1).—*A*, common warts. *B*, papules similar to verrucae planae juveniles.

Personal History.—The patient had whooping cough, measles and varicella in infancy. He stated that he never had any venereal disease.

Reason for Consulting Physician.—The patient consulted one of us (O. G. C.) for a cutaneous disease of twelve years' duration. The disease began when he was 9 years old, appearing first on the upper limbs and spreading later till it attained its present aspect and proportions.

Physical Examination.—On examination there were found as elementary lesions flattened papules similar to flat warts (fig. 1), some of them isolated

and others confluent. The color of the papules varied from pale rose to reddish, their shape being oval, rounded or polygonal. Their dimensions varied, some of them being 2 mm. in diameter. Most of the lesions were covered by scales which were easily removed, exposing a moist surface. The eruption was seen all over the body, including the axillary fossae and the skin covering the scrotum and penis. The plantar and palmar regions were affected only by verrucae (fig. 2).

Fig. 3 (case 1).—Papules resembling psoriasis.

The papules on the dorsa of the hands were a shining bright red, while those on the dorsa of the feet were larger and covered by thicker scales of a psoriasiform appearance (fig. 3); in certain regions the lesions were typical. On the face were seen pigmented isolated patches like those of senile skin. In the cervical region these pigmented patches made the skin appear dirty, as if due to a want of personal cleanliness. The whole cutaneous surface was pale; the scalp was entirely covered by scales, some adherent and others loose, the former con-

stituting a horny yellowish mass. The progress of the disease has been slow, for it has presented the same aspect since its first appearance except for intercurrent complications.

In the left parotid region, exactly at the spot where there existed a scaly pigmented patch, an ulcer of ten months' duration could be seen, measuring 7 by 8 cm. (fig. 4). The margins of this ulcer were raised, its base hardened and its secretion purulent. It bled easily. The irregular surface of the bottom of the ulcer was shown by histologic examination to be a squamous cell epithelioma.

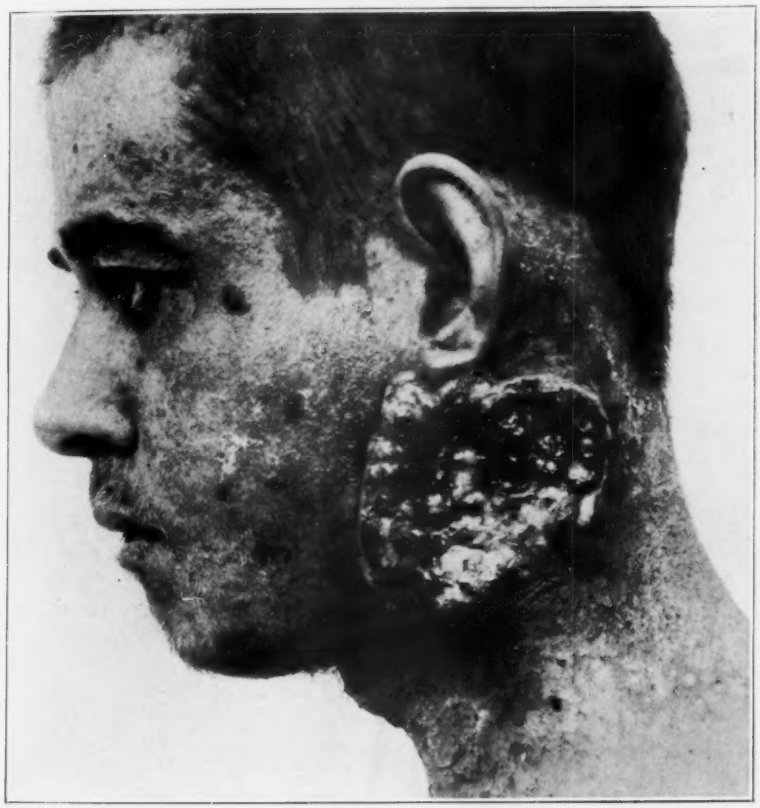

Fig. 4 (case 1).—Squamous cell epithelioma.

The nails and hair presented no abnormality. On the middle finger of the right hand there was a common subungual wart.

The conjunctival, buccal and nasal mucosa as well as that of the urethral meatus showed no abnormality except a typical verrucous formation on the lower lip.

Laboratory Examination.—The Wassermann and Kahn reactions were negative.

CASE 2.—C. M. E., 19 years old, white, single, a servant girl, a resident of Oliveira, Brazil, was admitted to Prof. Olyntho Orsini's ward on April 30, 1941. She was the sister of J. M. E. (case 1).

Personal History.—She had measles, whooping cough, epidemic parotitis and varicella in infancy. Menstruation began at the age of 15. At the time of examination menstruation was abnormal as regards duration and intensity and was painful.

Reason for Consulting Physician.—The patient consulted one of us (O. G. C.) for treatment of a cutaneous disease which she stated she contracted at the age of 9 years.

Fig. 5 (case 2).—Epidermodysplasia verruciformis of Lewandowsky and Lutz. There are typical lesions on the arms and thorax, telangiectases in the cervical region and small squamous cell epitheliomas in the malar and presternal regions.

Physical Examination.—On the palms there were flat plaques, oval, polygonal or circular, and circumscribed keratoses (corns) due to traumatism produced by manual labor. On the forearms and arms the plaques were more confluent; they were pink, and the desquamation was intense. In the plantar regions there was hyperkeratosis over the points of greatest pressure due to going barefoot (repeated traumatisms). In the anterior and posterior regions of the thorax, abdomen, axillary fossae and external genitalia flat plaques of the same kind

were seen, shining, desquamating and reddish (fig. 5). The breasts, including the mammillary areolas, were also involved. In the cervical and presternal regions telangiectases and pigmented patches were observed as well as a small squamous cell epithelioma in the right malar region. On the legs and dorsa of the feet the lesions gave the impression of lichenification. On the thighs the lesions were the same as on other parts. On the scalp there were loose dandruff and adherent yellowish scales.

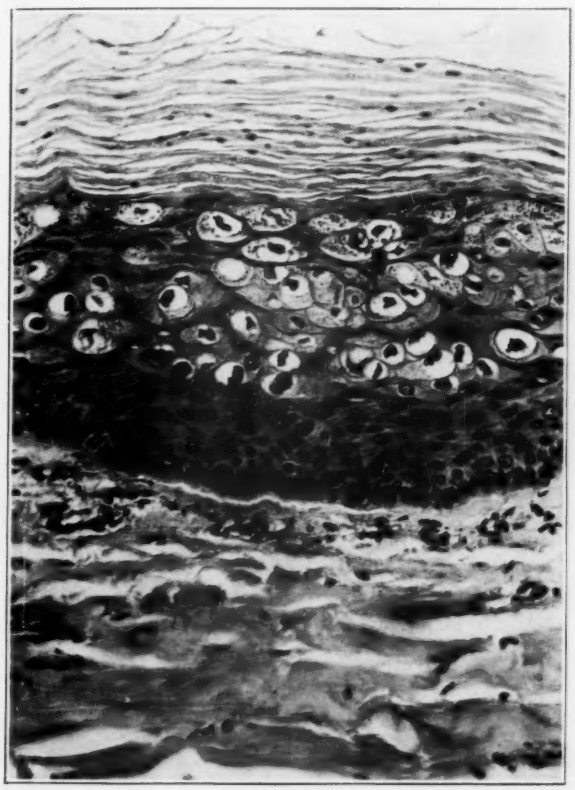

Fig. 6.—Nuclei in the horny layer and vacuolar degeneration in the granular layer and rete malpighii.

Examination of the nails and hair showed no abnormality. The visible mucosae were normal. General physical examination showed nothing abnormal. The Wassermann and Kahn reactions were negative.

HISTOLOGIC EXAMINATION

Histologic examination carried out by one of us (M. A. J.) gave the following results:

Case 1.—Examination of a fragment of skin from the mediosternal region showed hyperkeratosis, crusts and a certain amount of acanthosis at the level of the epidermis. The horny layers were thin and separated by cleavage lines.

In some areas nuclei were seen in these horny layers, but the typical parakeratosis was not presented because here the nuclei were small, round and pyknotic and the granular layer was not absent under these areas (fig. 6). In the rete malpighii and in the granular layer the cells were distinctly vacuolated as well as some nuclei, but generally the nuclei had become pyknotic, irregular and sometimes flattened and occupied the periphery of the cells. In some cells the nuclei were absent, the cell being entirely empty and reduced to a mere membrane (fig. 7). This vacuolar degeneration takes place as follows: the protoplasm of the cell becomes lighter in color than that of the normal adjacent cells;

Fig. 7.—Keratosis and vacuolation of the rete malpighii.

it is slightly basophilic and frankly reticular in appearance. In this fine network appear small vacuoles which run together and increase in size, invading the remaining protoplasm at the margin of the cell. In those nuclei which also suffer vacuolar degeneration, this begins by a chromatolysis at the center. The nuclei, whether or not they suffer vacuolation, have a tendency to occupy a marginal position and here they are generally found to be flattened. At the level of the basal layer it is rare to find vacuolated cells.

The papillary layer of the cutis was more or less smooth and, like the superficial zone of the reticular layer, was moderately infiltrated by lymphocytes and connective tissue cells; some chromatophores were also seen. There was no abnormality of the adnexa.

In a specimen from the right knee hyperkeratosis and hyperacanthosis were also observed, but the process of vacuolation in the cells of the granular layer and in the rete malpighii was not so pronounced here as in the first preparation, although the characteristics were the same, the predominant characteristic here being cells in the prevacuolated stage, easily identifiable by the fine reticulation and basophilic character of the protoplasm. In the cutis, the papillary part was found to be more irregular than in the preceding section, and the same lymphocytic infiltration could be noted.

Fig. 8.—Squamous cell epithelioma.

Biopsy of tissue from the tumor in the left parotid region showed it to be a squamous cell epithelioma, ulcerated and with secondary infection, presenting traces of pearls, nuclear monstrosities and innumerable mitotic figures (fig. 8).

Case 2.—A specimen for biopsy was taken from the left arm at the level of a flat papule and included healthy and diseased skin (fig. 9), so that the dividing line between the two could be well observed. On one side, one could see non-hypertrophied skin in which could be found, here and there, one or more vacuolated cells; on the other side, the hyperacanthosis was well marked and the number of vacuolated cells was great in the rete malpighii and in the granular layer, which here was poorly developed, as was also the horny layer, in which

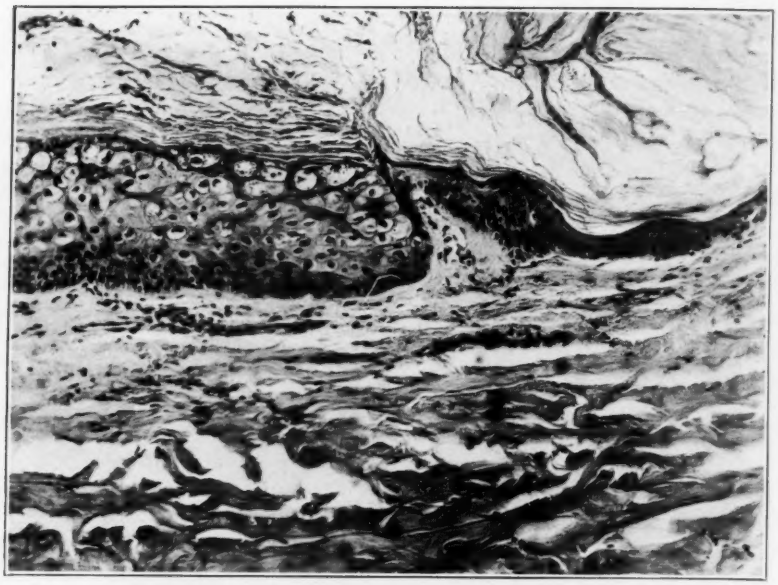

Fig. 9.—Transition from healthy to diseased skin.

Fig. 10.—Initial stage of squamous cell epithelioma.

there were areas of parakeratosis. The process of vacuolation of the epidermal cells was similar to that described in case 1. A slight round cell infiltration of the superficial areas of the cutis was also noticed here.

The tumors on the face were seen to be small squamous cell epitheliomas, covered with crusts and containing many mitotic figures and nuclear monstrosities.

Biopsy of tissue from a lesion from the presternal region showed it to also be an incipient squamous cell epithelioma (fig. 10).

In both cases the cutaneous lesions were characterized by vacuolation of the cells of the rete malpighii and of the granular layer, with hyperacanthosis and hyperkeratosis. As Darier pointed out, the condition was not dyskeratosis but merely vacuolation, for no segregation was observed in the altered cells.

In both cases there were also squamous cell epitheliomas, which in case 1 were of fair size and already ulcerated, situated at the level of the parotid region, and which in case 2 were on the cheek and in the presternal region but still in an incipient condition.

SUMMARY

We have described 2 cases of epidermodysplasia of Lewandowsky and Lutz. The patients were brother and sister whose parents were consanguineous. These cases are the first ones to be reported of this disease in Brazil and constitute the third instance of familial incidence of this condition in world literature up to 1940.[7]

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FAMILIAL OCCURRENCE OF ACRODERMATITIS ATROPHICANS CHRONICA

REPORT OF TWO CASES

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AND
SAMUEL M. BLUEFARB, M.D.
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The following report is of the occurrence of acrodermatitis in 2 sisters. In 1 of them the lesions were in the indurated stage and a juxta-articular node was present. In the other the disease was already in the atrophic stage, although apparently of shorter duration.

REPORT OF CASES

CASE 1.—M. H., the first patient observed, was a white married woman, aged 44, who had come to the United States from Czechoslovakia two years previously. The earliest lesions noticed were those on the right elbow, which appeared in 1937. In 1939 itching occurred on the right hand and was followed by redness. The patient stated that she "had always been cold" and required more blankets to keep her warm at night than did other members of her family. She had had two children; one of them had died of tuberculosis at the age of 23, and the other was still an inmate of a hospital for patients with tuberculosis.

The patient presented on the right olecranon a firm pea-sized rounded intracutaneous nodule of dusky red color with a yellowish gray center. Adjacent to this were dusky red indurated areas of doughy consistency. There was an irregular patch of slightly indurated dusky erythema on the dorsum of the right hand with extension onto the ulnar side of the wrist and forearm. A similar patch was present on the dorsum of the right foot. No atrophic changes in the lesions were seen.

A roentgen examination of the chest revealed no signs of active tuberculosis. An intracutaneous test with a 1 : 10,000 dilution of tuberculin gave negative results.

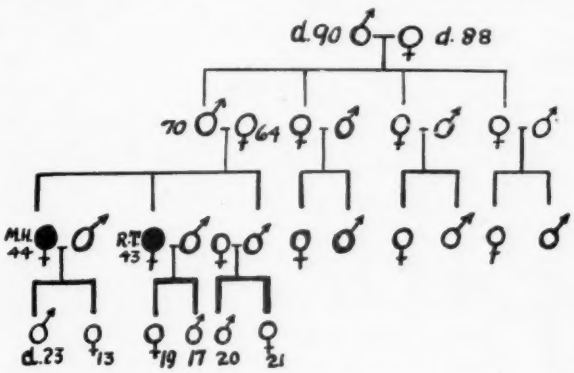
CASE 2.—R. T., a sister of the first patient, 43 years old, married, also born in Czechoslovakia, had always "felt cold" as long as she could remember. In 1938 she took a hot foot bath for the coldness of her feet and noticed the cutaneous changes of her legs shortly afterward. She attributed this to a burn from the foot bath.

She presented on the anterior surface and sides of the lower third of the left leg and ankle an irregular patch of cyanotic erythema with loss of elasticity and thinning of the skin sufficient to render the subjacent blood vessels visible. There was similar but less intense involvement about the medial side of the right ankle.

From the Department of Dermatology and Syphilology, New York University College of Medicine, and the Department of Dermatology and Syphilology, Third (New York University) Medical Division, Bellevue Hospital, service of Dr. Frank C. Combes.

A piece of the involved indurated area and the entire juxta-articular nodule were removed for histologic study. The following changes were noted in the specimen of the involved area: The epidermis was slightly irregular in thickness, with flattening of the rete pegs in some areas. The thicker areas were situated chiefly above subjacent foci of inflammatory infiltrate in the upper part of the corium and showed intercellular edema and a moderate number of balloon cells. The basal cell margin in these spots was somewhat indistinct. The corium was decidedly edematous, with separation of the bundles of connective tissue. These appeared to stain normally but were frayed in many places. Elastic fibers were present and showed fragmentation and clumping. There was an infiltrate in the upper part of the corium arranged in a loose spongy meshwork of fine connective tissue fibers. The cells were lymphocytes and fibroblasts (small and large round cells). Plasma cells were not seen in any appreciable number. There was a moderate number of dilated blood vessels. Sweat glands were present and were not degenerated.

The section of the juxta-articular node showed the same changes in the upper part. There was no line of distinction between the corium and the subjacent nodule, which was essentially a fibroma consisting of medium-sized and coarse interlacing



Genetic history of 2 patients (filled-in symbols) with acrodermatitis atrophicans chronica.

bundles of collagen. Elastic fibers were absent. Many fibroblasts were present, and their nuclei were vesicular. Throughout, there were scattered foci of lymphocytes and fibroblasts, the latter predominating.

COMMENT

These 2 cases are interesting chiefly from the genetic viewpoint. We have not been able to discover any report of the familial occurrence of acrodermatitis atrophicans chronica in this country except for a case presented by J. B. Ludy before the Philadelphia Dermatologic Society, in 1935.[1] This was the case of a 33 year old woman, a German from Alsace-Lorraine, with lesions on the forearm and arm and areas of macular atrophy. In his discussion, Ludy stated that the

1. Ludy, J. B.: Purpura Annularis Telangiectodes, Arch. Dermat. & Syph. **32:** 825 (Nov.) 1935.

patient's grandmother was said to have had a similar eruption and that the condition was said to be common in the part of the country inhabited by this family. No genetic history was included. Darier [2] did not discuss acrodermatitis atrophicans chronica from the genetic viewpoint but listed the following possible causes: an endocrine disturbance based on syphilis, tuberculosis, leprosy or some other cause and related to Raynaud's disease or the sclerodermas; trauma, and infections, possibly a virus infection. Cockayne did not list the condition in his monograph on hereditary cutaneous diseases.[3] Sweitzer and Laymon,[4] in their well documented article on the common features of acrodermatitis atrophicans chronica, did not discuss any hereditary examples of the disease. Pautrier is said to have observed many familial cases in Strasbourg, France. We have not been able to find any such references by him in the literature.

SUMMARY

We have reported the occurrence of acrodermatitis atrophicans chronica in 2 sisters, born in Czeckoslovakia. A study of the family tree does not permit any interpretation of the genetic mechanism concerned.

77 Park Avenue, New York.

104 South Michigan Avenue, Chicago.

2. Darier, J.: Précis de dermatologie, Paris, Masson & Cie, 1928, p. 451.

3. Cockayne, E. A.: Inherited Abnormalities of the Skin and Its Appendages, New York, Oxford University Press, 1933.

4. Sweitzer, S. E., and Laymon, C. W.: Acrodermatitis Chronica Atrophicans, Arch. Dermat. & Syph. **31**:196 (Feb.) 1935.

HEMORRHAGIC SYPHILIS

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Hemorrhagic lesions of the skin occur rarely in syphilis, and in the last ten years no cases of this condition have been reported in the literature. A critical review of the literature is not easily made, as most cases of this disorder were reported in the nineteenth century. The diagnosis of syphilis was then made from the clinical picture only, and it is evident that many cases of avitaminosis, thrombopenic purpura and other blood dyscrasias were included in these early reports.

The first survey was made by Mraček, who described a series of cases of syphilis haemorrhagica neonatorum and demonstrated the pathologic changes in blood vessels and capillaries. In 1875 Bälz described 3 cases of hemorrhagic syphilis. One patient suffered from a papulosquamous syphilid with capillary bleeding combined with hemorrhage from different points and in the lungs. Finger [1] summarized the literature up to 1930 and cited eleven authors: Horowitz, Hartman and Pignot, Piccardi, Thim, Kaiser, Weitz, Schebunew, Tijschenko, Levy, Fraenkel and Kanisawa. He summarized their findings as follows: (1) purpura concurrent with syphilitic exanthems, (2) syphilitic lesions with bleeding and (3) syphilitic lesions with bleeding with or without severe hemorrhage in the joints and mucosa. Weitz described 1 case in which histologic examination showed dilated, paralyzed capillaries similar to a condition seen in Majocchi's disease. In most instances the articles could not be read, as the papers were published in obsolete foreign journals. In 1886 Hartmann and Pignot [2] reported 13 cases of hemorrhagic syphilis, in most of which the hemorrhagic lesions were on the lower extremities. They cited forty-eight authors dating as far back as Ricord and came to the following conclusions:

1. In congenital syphilis, true hemorrhagic diathesis is common.

2. In acquired syphilis the following changes may be observed: (a) hemorrhagic transformation of syphilitic lesions, (b) a special form of purpura and (c) a nonspecific purpura due to syphilis.

From the Section of Dermatology, Department of Medicine, Dr. J. C. Meakins, Chief, Royal Victoria Hospital.

1. Finger, E., in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1931, vol. 16, pt. 2, pp. 183-272.

2. Hartmann, H., and Pignot, A.: Hémorrhagies et syphilis, Ann. de dermat. et syph. **7**:1-21, 1886.

3. The specific endarteritis may cause intestinal hemorrhages and especially hemorrhagic encephalitis.

Kanisawa described a patient who had a diffuse purpura occurring simultaneously with a papular eruption. During the patient's stay in the hospital grouped petechiae occurred on the feet, neck and back and disappeared after the first arsenical injections. Scomazzoni [3] in 1930 reported the case of a 21 year old man with a hemorrhagic, ulcerative syphilid. Histologic examination showed degenerative and proliferative changes in the endothelium with capillary thrombosis. In addition, there were hemorrhagic enterocolitis, nephritis and bleeding into the abdominal muscles. Specific treatment had a slow healing effect.

Because of the rarity of this condition it was felt that the following case was worthy of being reported.

REPORT OF A CASE

I. S., aged 25, a Canadian of Irish extraction, was first seen in the Royal Victoria Hospital on Oct. 15, 1941, complaining of an extremely painful and swollen tongue. His past history revealed the usual diseases of childhood, typhoid fever and two attacks of icterus in 1939. He stated that his tongue was always furrowed and that he believed it had become more so during the past year. His father and an uncle had abnormal tongues. He had had sexual intercourse several times during the last three months. His habits were said to be moderate; he drank alcoholic beverages occasionally and smoked twenty-five to thirty cigarets a day. His diet was varied and adequate. He had lost 10 pounds (4.5 Kg.) since the onset of the disease.

The present illness dated back to October 3 and started with an irritated swollen tongue. There was some fever, and for one day the submandibular glands were palpable. His tongue was painful at night, but the condition improved during the day. After the extraction of two molar teeth and two days of rest in bed, he was free of symptoms from October 10 until October 13, when all the symptoms recurred. They were worse at night, and the swelling of the tongue increased. On October 15 the tongue became extremely painful and bleeding appeared.

The well developed and well nourished patient was drowsy and ill on admission to the hospital and had a temperature of 101.4 F. The tongue was swollen and diffusely coated, and there were ridges and furrows on both upper and lower surfaces, filled with thick whitish membranes. Some bleeding points were visible under the coating. The nasal membranes were slightly injected. Spirochetes morphologically indistinguishable from Spirochaeta pallida were found in the scrapings of the tongue. There was no cutaneous eruption, and the physical examination otherwise showed nothing abnormal. During the next three days, the inflammation of the tongue became worse, the swelling increased, he was unable to take solid food and his speech was impaired. The membranes increased in thickness and sloughed off partially, and more bleeding points became visible. Five days after admission, cutaneous lesions appeared on the elbows and knees; these were small

3. Scomazzoni, T.: Sifilide maligne emorragica, Gior. ital. di dermat. e sif. **71**:716-734, 1930.

and hemorrhagic, some of them being slightly infiltrated, hemorrhagic papules, some small petechiae and several hemorrhagic pustules of different size. A dark field examination of the cutaneous lesions revealed S. pallida. These lesions faded after forty-eight hours and were followed by a follicular eruption of macules, papules and a few pustules on the back and buttocks, with hemorrhage again the most striking feature (fig. 1). A biopsy of a hemorrhagic pustule from the buttock showed the following changes: The epidermis was thrown into undulations. Patchy areas of hemorrhagic exudate were scattered over the surface and in the epithelial folds. Little perivascular round cell infiltration was observed, and there was no evidence of endarteritis.

Forty-eight hours later small brownish red papules appeared on the palms and soles. These were not hemorrhagic, but they were characteristic of syphilis and

Fig. 1.—Maculopapular eruption with hemorrhage involving the buttocks.

disappeared within three days. A new eruption of a different type then appeared on the hands and feet, consisting of red slightly raised papules, needle point sized to bean sized, with clearly visible telangiectasis and pointlike hemorrhages. Several lesions showed a central depression and a slightly raised hemorrhagic border (fig. 2). A biopsy of a lesion from the dorsum of the foot (fig. 3) showed that the epithelium was slightly undulated. In the papillary bodies immediately beneath the epidermis there were small foci of lymphocytic infiltration and some hemorrhagic extravasation. The titrated Wassermann reaction of the blood was positive up to a dilution of 1:40. After one week, in spite of antisyphilitic therapy (four injections, 5 cc. in all, of an oil-soluble bismuth compound and one injection of mapharsen, 0.04 Gm.) new petechiae without infiltration appeared on the feet. S. pallida was again demonstrated.

The spinal fluid was normal, as was a roentgenogram of the lungs. There was no evidence of C avitaminosis or inadequate diet. There was no capillary fragility. The reactions to Rumpel-Leede and snake venom tests were negative. He was given an injection of 500 mg. of ascorbic acid, and an absorption index of 41.3 was found. The red blood cell count was 5,880,000, the hemoglobin 106 per cent and the white blood cell count 16,700, showing leukocytosis and lymphopenia. The prothrombin time was forty-five seconds and the fibrin-forming time one minute and forty-five seconds. Complete coagulation occurred in ten minutes with calcium; clot retraction was present, and bleeding time was one minute and thirty seconds. There were 230,000 platelets. Other than the symptoms explained by the infection, the only significant change was the prolonged prothrombin time (with Smith's method, normal time is thirty seconds).

Fig. 2.—Left foot showing slightly raised papules with telangiectases and minute petechiae.

In such a case, low intake of vitamin K and possible hepatic damage, which would prevent the assimilation of this vitamin, had to be considered. Accordingly, 10 mg. of kavitan, a vitamin K preparation (Ayerst, McKenna and Harrison), was given daily for eight days, and after twelve days there was no change in the prothrombin time. Hepatic function tests were made, and the bromsulphalein retention was between 2.5 and 4 per cent on three occasions. Tests for bilirubin in the blood, indirect, showed 0.2 and 0.26 mg. per hundred cubic centimeters on two occasions. Carbohydrate tolerance tests repeatedly gave flat curves, but no sugar was found in the urine.

Treatment was started with small doses of an oil-soluble bismuth preparation twice weekly and mercuric cyanide daily for two weeks and followed with mapharsen 0.3 Gm. every second day. The lesions on the tongue healed quickly, and no further exanthems appeared. The prothrombin time was examined daily and became normal on the eighteenth day. The bromsulphalein retention of 2.5 to 4 per cent did not change.

Reexamination on two occasions since discharge showed that the results of bromsulphalein tests remained within normal limits and that the prothrombin time was normal (thirty-one and thirty seconds). The patient has had no untoward effects from the treatment (0.06 Gm. of mapharsen twice a week) and no recurrence of any cutaneous lesions, and the titer of the Wassermann reaction is rapidly falling.

Fig. 3.—Photomicrograph of section from the dorsum of the right foot, showing slightly undulated epithelium, a small focus of lymphocytic infiltration and some hemorrhagic extravasation in a papilla.

COMMENT

Acute painful swelling of the tongue is a rare finding in secondary syphilis. Finger [1] stated that in cases of lingua plicata (scrotalis) mucous patches may involve the furrows and cause a painful acute inflammation. This situation was present in this case.

Syphilitic lesions of different types appeared on the body in five attacks over a period of two weeks. Most of the lesions displayed decided hemorrhage. S. pallida was repeatedly demonstrated. The hemorrhagic manifestations were limited to the syphilitic lesions. No endarteritis or other gross vascular changes were demonstrated, and no evidence of C avitaminosis was found.

The dextrose time curve was flat, and the results of liver function tests were normal. The prothrombin concentration was reduced over a period of three weeks and was not changed by injections of synthetic vitamin K but became normal after antisyphilitic therapy.

CONCLUSIONS

The cause of the hemorrhagic eruption may be considered (1) a direct primary toxic effect of S. pallida on the capillaries and/or (2) a low prothrombin concentration, which may have been caused by a subclinical syphilitic hepatitis.

NOTE.—Eight months after onset of symptoms the serologic reactions of the spinal fluid and the blood were negative.

SPIEGLER-FENDT SARCOID

HERMAN CHARACHE, M.D.
BROOKLYN

Sarcoids of the skin, according to Ewing,[1] are tumor-like growths, single or multiple, that progress by infiltrating the tissues, often regress or disappear and do not produce metastasis, although appearing in numerous foci. They present in their earliest stages or throughout their existence the histologic picture of an inflammatory lesion, which, however, may sometimes assume a more or less distinct neoplastic character. Members of the group of sarcoids, according to Ewing, are mycosis fungoides, multiple benign sarcoids of Boeck and Spiegler-Fendt sarcoid. It is with the last subject that I endeavor to deal.

The two outstanding papers on Spiegler-Fendt sarcoid were one by Sweitzer [2] in 1925 and one by Lewis [3] in 1935. Lewis collected from the literature 30 cases and reported 4 cases of his own. The last case of Spiegler-Fendt sarcoid was reported by Epstein [4] in 1940. He stated that only 5 instances of this type of neoplasm have been presented before the various dermatologic societies of the United States since Lewis' contribution. Including our own case report, this makes a total of 41 cases of Spiegler-Fendt sarcoid thus far studied.

Lewis classified the disease as (1) superficial localized lesions and (2) disseminated lesions. The clinical differentiation of these two types of sarcoid is summarized in the accompanying table, based on the observations of Lewis. The difference in the clinical behavior of the two types is so great that Epstein questioned whether two separate entities are not being dealt with rather than two forms of a single disease.

Histologically the two forms of Spiegler-Fendt sarcoid are essentially the same. They are characterized by a more or less circumscribed round cell infiltration of the cutis with little disturbance of the connective tissue. The epidermis and papillary layer as a rule are free from infiltration. This free zone, according to Sweitzer, is characteristic. Less

1. Ewing, J.: Neoplastic Diseases, ed. 4, Philadelphia, W. B. Saunders Company, 1940, p. 279.

2. Sweitzer, S. E.: Sarcomatosis Cutis of Spiegler, Sarcoid of Spiegler-Fendt, Arch. Dermat. & Syph. **11**:481 (April) 1925.

3. Lewis, G. M.: Is Spiegler-Fendt Sarcoid a Clinical or Histologic Entity? Arch. Dermat. & Syph. **31**:66 (Jan.) 1935.

4. Epstein, E.: Dermatologica **81**:236, 1940.

frequent observations are plasma cells, deep-seated, thick-walled vessels and occasional multinucleated cells, as found in the cases reported by Lewis.

The importance of making a biopsy was emphasized by Fendt,[5] who called attention to the close resemblance of the disease to sarcomatosis cutis and carcinomatosis cutis. To these malignant diseases must also be added metastatic melanoma of the skin, which is sometimes clinically indistinguishable from Spiegler-Fendt sarcoid, being purplish red and localized in the skin. To apply prolonged arsenic treatment as a

A Comparative Study of the Two Types of Spiegler-Fendt Sarcoid

	Localized Type (11 Cases)	Disseminated Type (19 Cases)
Onset:	Few months to several years	Rapid development
Age:	Youngest 13; oldest 73; average 50	Youngest 8; oldest 76; average 43
Sex:	More frequent in male, 2:1	More frequent in female, 2:1
Predilection:	Face (7 times), leg, thigh, breast, shoulder and sternal region	Scattered throughout the skin, trunk and extremities chiefly affected
Number of lesions:	Few; when multiple, tendency toward grouping	May vary from 6 to 200; average 77
Size:	Comparatively small, elevated above the skin and attached to it, edges sloping; clinically not situated in subcutaneous tissue	Size of millet seed to that of walnut or egg; palpated as deep nodules or plaques, with some elevated above skin; remain unchanged after attaining a certain size
Color:	Usually red; may be purple or brown	Bluish red; may be bright red or color of skin
Consistency:	Soft, rubber-like; firm in some cases	Almost all firm; some elastic
Ulceration:	None	Present in only 1 case
Lymph nodes:	Enlarged in only 1 case	Enlarged in 25 per cent of cases
Internal lesions:	None	Present in 4 cases; stomach, kidney, heart, ovaries and brain involved
Subjective symptoms:	None	Present only with internal lesions
Spontaneous involution:	Occurred in 4 cases	Followed erysipelas and arsenical treatment
Prognosis:	Good	Guarded
Blood changes:	None	None

therapeutic test in these cases, as suggested by some authors, instead of making a biopsy, would be hazardous. Other nonmalignant lesions resembling Spiegler-Fendt sarcoid to be considered in the differential diagnosis were described by Lewis, particularly the sarcoid of Boeck.

In almost all the reported cases, according to Lewis, arsenic treatment was given. Fendt collected 25 such cases from the literature, in which the patients were cured or the condition was improved with arsenic. Sweitzer stated that these tumors may undergo spontaneous involution and often heal with arsenic and that roentgen therapy will effect at least a temporary cure. Lewis recommended long-continued arsenic medication to the point of tolerance, combined with roentgen therapy. He

5. Fendt, H.: Arch. f. Dermat. u. Syph. **53**:213, 1900.

also mentioned cases reported by Spiegler,[6] Pospelow[7] and Sweitzer in which the lesions cleared spontaneously during fever, and 1 case reported by Langenbuch,[8] in which the lesions entirely disappeared after an attack of erysipelas. The latter might suggest the efficacy of Coley's serum (an unfiltered mixture of erysipelas and Bacillus prodigiosus cultures) as a therapeutic measure. Three patients were treated by surgical excision; in 2 the condition recurred and in 1 there was no recurrence for five years.

REPORT OF A CASE

E. B., a Negress aged 33, was admitted to the Cumberland Hospital on April 6, 1941, complaining of "lumps" on the skin.

Six months previous to admission pain developed in the upper part of the right arm. Three days later she noticed two small lumps, about the size of a dime, in the same area. Four months later a similar nodule developed on the left arm and one on the right hip. About the same time she noticed some "red spots" in different parts of the body, which disappeared in a few days. The nodules were painless but slowly increased in size. The patient was then admitted to the hospital for treatment.

Her past history was essentially irrelevant. She was married but had no children. She had never sustained any trauma. No one in her family had had a similar disease.

Examination revealed that she was well developed and apparently in good health. Her temperature, pulse and respiration were normal. Her blood pressure was 140 systolic and 80 diastolic. Two symmetric nodules were found on the right arm, overlying the deltoid area. They were firm and elastic and measured 2 by 1 cm. The center was elevated about 1 cm., and the edges sloped and fused with the normal skin. The nodules extended into the subcutaneous tissue and were intimately attached to the skin. The overlying skin was shiny, purplish red and unbroken. There was no pain or tenderness on palpation. A similar nodule, the size of a pea, was present on the dorsum of each forearm at the lower third. A larger nodule, 2 by 2 cm., was found on the posterior lateral surface of the right hip. A flat pigmented mole was found on the right shoulder, and one on the left thigh. Several reddish purple macular areas were found over the sternum and the right scapula. These were the "red spots" which the patient said she had on various parts of her body when she first noticed the "lumps" on her arm. The red spots disappeared several days later. The rest of the physical examination did not reveal any pathologic changes.

Laboratory observations were as follows: The urine was not pathologic. The Wassermann reaction of the blood was negative. The white blood cell count was 5,500 white cells, with 45 per cent polymorphonuclear leukocytes, 8 per cent stab cells and 47 per cent lymphocytes. The red blood cell count was 4,000,000, and there was 90 per cent hemoglobin. The bleeding time was one and one-half minutes, the coagulation time four minutes and the prothrombin time thirty-eight seconds. The platelet count was 500,000. Tests for albumin and globulin showed albumin 4.32 per cent and globulin 2.98 per cent. The chemical examination of the blood showed sugar 129.8 mg., urea nitrogen 11.5 mg., calcium 11.15 mg.,

6. Spiegler, E.: Arch. f. Dermat. u. Syph. **27**:163, 1894.
7. Pospelow, A. J.: Arch. f. Dermat. u. Syph. **34**:247, 1896.
8. Langenbuch, R.: Deutsche med. Wchnschr. **16**:1241, 1890.

and phosphorus 2.5 mg. per hundred cubic centimeters and phosphatase 2.61 Bodansky units. The basal metabolic rate was —2 per cent. Roentgenographic examination of the lungs and gastrointestinal tract did not disclose any pathologic changes.

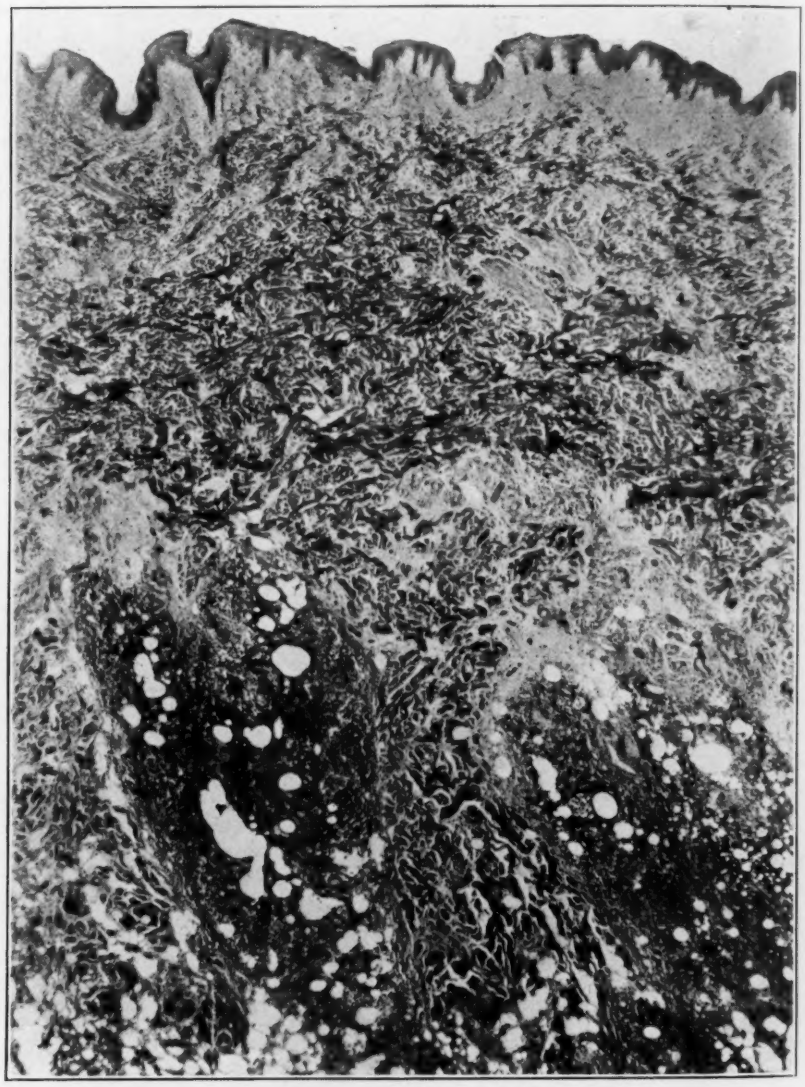

Fig. 1.—Intact epidermis and cellular infiltration in the deep part of the corium and subcutaneous tissue (× 38).

One of the nodules on the right arm was excised for biopsy and was reported by Dr. S. H. Polayes, pathologist of Cumberland Hospital, as Spiegler-Fendt sarcoid. The diagnosis was further confirmed by Dr. George M. Lewis, whose

outstanding work on this subject is well known among dermatologists. The wound healed, leaving a small keloid in the scar.

The patient was given arsenic in the form of solution of potassium arsenite U. S. P. to the point of tolerance and was examined weekly to observe the therapeutic effect. After five weeks of treatment the patient, the nurse and the examining physician all agreed that the lesions had definitely decreased to about

Fig. 2.—Discrete collection of cells with suggestive formation of a follicle (×90).

half their former size. The treatment was continued, but without any further effect.

On July 31 the patient was transferred to the Brooklyn Cancer Institute for radiation therapy. Only one of the nodules on the right arm was radiated to study the effect. She received three treatments of 300 r each to the lesion, the factors being 135 kilovolts, 3 mm. of aluminum and 30 cm. skin-target distance, from July 31 to August 6. When the patient was examined on September 10, it was

noted that the treated lesion on the arm had not decreased in size and was not appreciably affected by radiation. However, the untreated lesions were greatly improved. The nodule on the right forearm had completely disappeared, and those on the left forearm and right hip had greatly diminished in size. There were no new lesions and no recurrence of the excised lesion.

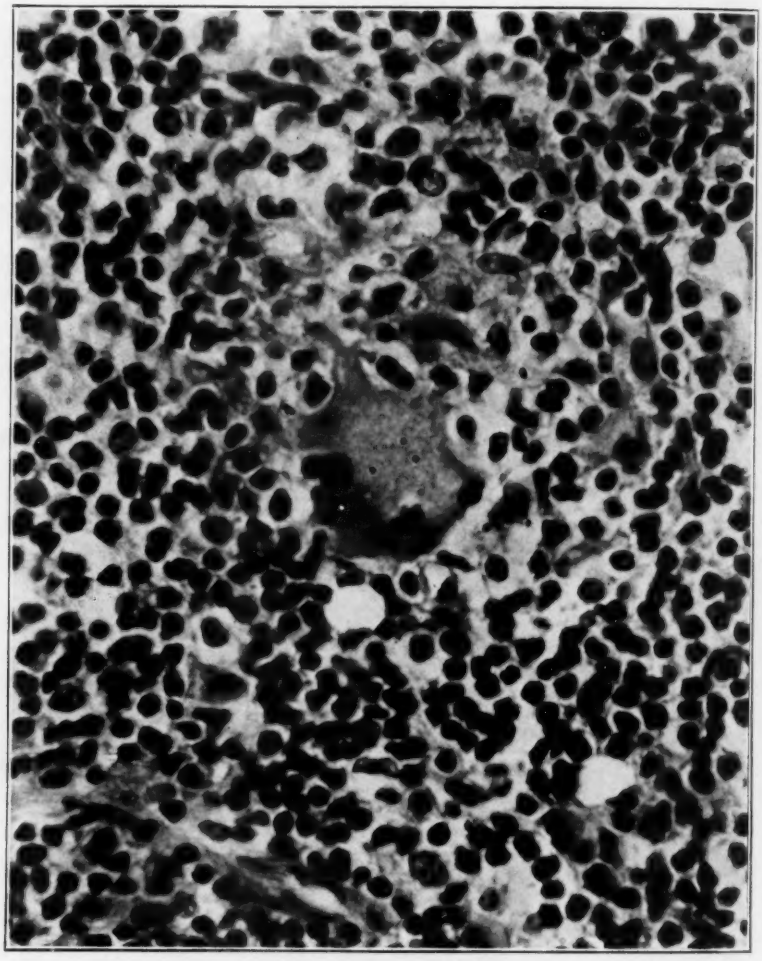

Fig. 3.—Deeply staining lymphocytes, occasional plasma cells, eosinophils and multinucleated cells (× 675).

The patient was last seen on November 24. Examination of her blood at this time showed 3,680,000 red blood cells, 73 per cent hemoglobin and 7,100 white blood cells, with 56 per cent polymorphonuclear leukocytes, 38 per cent lymphocytes, 3 per cent monocytes and 3 per cent eosinophils. Roentgenographic examination of the lungs again revealed no abnormality. The lesions had completely disappeared, with the exception of the one on the right arm that had received radiation therapy. It had decreased somewhat in size but was still palpable.

COMMENT

Sweitzer,[2] in commenting on the results of radiation therapy in his case, stated: "The roentgen ray was used therapeutically, but the process of involution had set in before its use, and the tumors situated on untreated parts of the body involuted as rapidly as on the treated parts."

The number of patients with Spiegler-Fendt sarcoid treated by radiation is so small that judgment has to be withheld for the present as to its efficacy.

Our patient will be closely observed and studied at the Brooklyn Cancer Institute. A further report will be rendered should any important clinical manifestation supervene.

SUMMARY

Sarcoids of the skin, according to Ewing, are tumor-like growths, single or multiple, which often regress or disappear and do not produce metastasis but may appear in numerous foci.

Spiegler-Fendt sarcoid has been divided by Lewis into the superficial localized form and the disseminated form.

The clinical characteristics and differentiation of the two types are tabulated.

Histologically the two forms are essentially the same.

The importance of making a biopsy to rule out cutaneous malignant growth is emphasized.

Forty-one cases of Spiegler-Fendt sarcoid have thus far been studied.

In almost all the cases arsenic treatment was given.

The efficacy of surgical intervention and radiation therapy in treating the disease is not yet established.

A case of proved Spiegler-Fendt sarcoid is reported with complete laboratory studies, in the hope that it may contribute toward the further study of the disease.

75 Prospect Park Southwest.

SUPERFLUOUS HAIR

REMOVAL WITH THE MONOPOLAR DIATHERMY NEEDLE

MARTHE ERDOS-BROWN, M.D.
CHICAGO

Hypertrichosis is considered by the sensitive woman a most unsightly, humiliating, masculine blemish. It not only is a social and economic disadvantage but serves as a physical basis for a melancholic psychic disturbance, and it is a mistake merely to console the patient.

Dermatologists have accepted two energized needle methods as satisfactory for removing superfluous hair. Electrolysis utilizes a needle energized by galvanic current, and the diathermy method utilizes a needle carrying high frequency current.

Electrolysis presents many complicating features which make the operation much less certain than merely inserting a needle and adjusting a rheostat would indicate. If the electrodes are reversed (and two must be used), whether by accident or by ignorance, the result is the formation within every follicle entered by the needle of a black dot or tattoo mark. But if used on the negative terminal steel needles are satisfactory regardless of the glamour which lay operators attach to gold and platinum needles.

Sometimes the positive, or indifferent, terminal consists of a pad moistened with salt water which is attached to the hand of the patient. This electrode having a large surface, the density of the current will be so low as to produce practically no biologic effect. The make and break of the current may be controlled by the operator. The needle is inserted, and then the current is turned on. Most operators use a cup of salt solution as the indifferent electrode, into which the patient puts one hand after the needle is inserted into the skin, which affords excellent contact. In multiple electrolysis, after the initial make of the current following the insertion of the first needle, the current passes through the patient constantly during the treatment through several needles used simultaneously, and one needle is relocated at a time. Change of position of the patient's hand in the saline solution may alter the intensity of the current and vary the time required for the eradication of the hair roots. This uncertainty and the difficulty of manipulating several needles simultaneously is disconcerting and makes the method difficult to use with safety. A needle may be overlooked until the hydrogen froth bubbling from the follicle orifice warns the operator of imminent overexposure with the possible formation of scars. The treatment for hyper-

trichosis is not legally confined to the medical profession,[1] and the apparent simplicity of the galvanic apparatus tempts many lay operators to claim that electrolysis will remove superfluous hair with no dangerous sequelae.

In 1910 Eitner [2] introduced a diathermy technic for epilation. Ordinary diathermy equipment does not allow a fine adjustment of the current necessary for the treatment. He used an apparatus containing a Poulsen arc lamp instead of a spark gap machine. Since then many dermatologists have agreed that for more superficial lesions of the skin monopolar diathermy is useful and effective. They have described an important characteristic of monopolar diathermy current, namely, that no heat is present in the needle or on the surface of the skin but that heat is generated in the tissue itself owing to its resistance to the current.

Since then, as diathermy equipment has improved, many writers have described the method as acceptable and satisfactory for the removal of hair. Schwarz [3] reported the diathermy method as being quick, with delicately localized destruction and no scar formation, and Schoenstein [4] found the method so rapid that he could remove one hundred to one hundred and fifty hairs in half an hour. Langer [5] found electrocoagulation four to five times faster than electrolysis. Fenyö [6] found the results of electrocoagulation as good as those of electrolysis and concluded that electrolysis takes more time, is painful and is only 50 per cent successful. He concluded that electrocoagulation requires a shorter time and observed that the papilla does not have to be touched by the needle to effect destruction of the hair. Lanari [7] claimed good results for diathermy and agreed that diathermy is quicker than electrolysis. He stated that the cosmetic result is better because necrosis is caused only in the papilla and thus scars on the surface can be avoided. He mentioned that the shorter time per hair makes this method less expensive. Just as with electrolysis, he stated that recurrences are seen also with this method.

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1. Medical Practice Acts: Removal of Hair by Electrolysis Not the Practice of Medicine, Medicolegal Abstracts, J. A. M. A. **110**:838 (March 12) 1938.

2. Eitner, E.: Kosmetische Operationen: Ein kurzer Leitfaden für den Praktiker, Berlin, Julius Springer, 1932.

3. Schwarz, S., in Symposium on Hypertrichosis, Zentralbl. f. Haut- u. Geschlechtskr. **24**:777, 1927.

4. Schoenstein, E., in Symposium on Hypertrichosis, Zentralbl. f. Haut- u. Geschlechtskr. **24**:777, 1927.

5. Langer, E.: Electrocoagulation in Dermatology, Beihefte z. Med. Klin. (no. 6) **23**:165-166, 1927.

6. Fenyö, J.: Diathermy for Cosmetic Purposes, Zentralbl. f. Haut- u. Geschlechtskr. **25**:551, 1928.

7. Lanari, E. L.: Feminine Hypertrichosis: Therapy by Diathermocoagulation, Semana méd. **2**:1845-1852 (Dec. 31) 1936.

Lumer [8] mentioned diathermy as the method of choice. It offered, he stated, quick isolated destruction of the papilla with a minimum of scarring. He preferred diathermy because it is quicker and causes less reaction and less pain and there are fewer recurrences. Lanzi [9] expressed the opinion that diathermy is the best method. He used fine needles without insulating lacquer and removed three hundred hairs in one treatment. He felt that the great advantage of electrocoagulation is that only one or two seconds is needed for the destruction of the papilla instead of the twenty or thirty seconds needed with electrolysis. Ducourtioux [10] concluded that electrocoagulation has definitely superseded electrolysis. Karpelis [11] reported his experience with electrolysis in 1,117 cases and stated that his results were the same as those of most operators. After using the diathermy needle method, however, he considered electrolysis an outmoded technic.

Epilation with the diathermy current has been slow to become popular because most apparatus until fairly recently has been made for high intensity current and has been of the spark gap type. The current from the spark gap machine is not steady or constant. It occurs in recurrent bursts of energy. Each discharge energizes the circuit. This is followed by another wave train which again dies out. This series of events continues as long as power is supplied to the machine. The rate at which the wave train diminishes is known as damping. The current from all spark gap machines is damped, that is, intermittent and irregular, and the wavelength is not constant or sharply defined. Diathermy current passed through the body distributes itself in inverse proportion to the impedance of the path of the current. In passing through the body, some of the electrical energy is induced within the mass of tissue. In the light of present day knowledge it is safest to assume that the physiologic effects of diathermy current are due primarily to the heat and attendant phenomena caused by the application of the current.

It is possible to perform epilation with the spark gap diathermy machine, but two electrodes are necessary and one of these must be a directly applied and tightly bandaged metal applicator. The current, as aforementioned, is intermittent and damped. In a vacuum tube diathermy

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8. Lumer, M.: Facial Hypertrichosis in Female: Local Therapy by Diathermocoagulation, with Special Reference to Technic, Semana méd. **2**:891-897 (Oct. 20) 1938.

9. Lanzi, G.: Marconitherapy of Hypertrichosis in Women, Policlinico (sez. prat.) **44**:1732-1737 (Sept. 13) 1937.

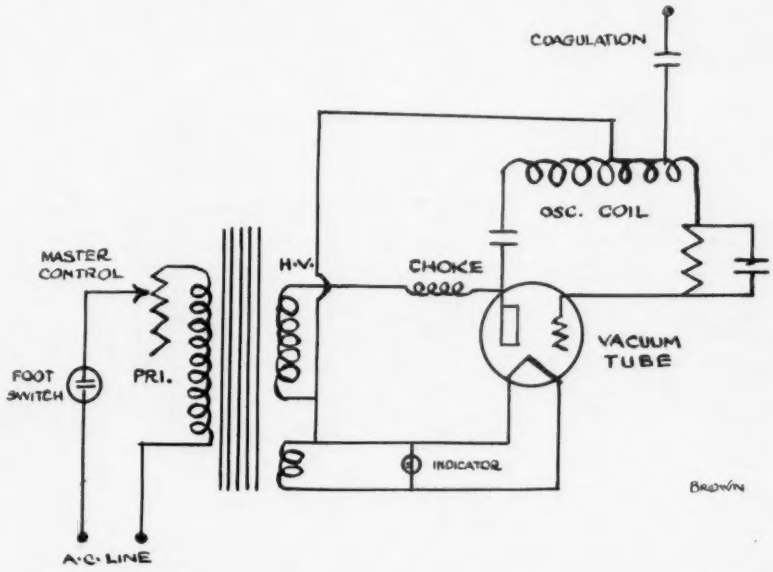
10. Ducourtioux, M.: Technic of Diathermic Epilation in Hypertrichosis, Rev. de actinol. **10**:14-19 (Jan.-Feb.) 1934; Treatment of Feminine Hypertrichosis, Prat. méd. franç. **15**:361-366 (May, B) 1934.

11. Karpelis, E.: Injuries Following Epilation by Electrolysis or Roentgen Rays, Wien. med. Wchnschr. **87**:685 (June 19) 1937.

system, a power transformer and a vacuum tube furnish the driving energy for the condenser coil circuit. The tube, however, operates on a different principle from the spark gap machine. It generates a sustained, undamped current, which flows smoothly in equal bursts of intermittent wave trains. It makes unnecessary the use of the directly applied metal secondary electrode.

In order to use one electrode (i. e., the second electrode is theoretically connected to the patient by electrostatic capacity) and have sufficient energy transmitted, one must employ high frequency current.

To avoid sparking, one must use low terminal voltage. The tube apparatus furnishes a frequency high enough to be used with one



Vacuum tube hook-up for removal of superfluous hair with the monopolar diathermy needle.

terminal and terminal voltage low enough to avoid sparking and still has sufficient energy to perform the necessary work.

With a vacuum tube, monopolar apparatus, a short exposure—approximately one twentieth of a second to one fifth of a second—will destroy the papilla even if a feeble current is used. With any energized needle treatment for superfluous hair, the requirement is to establish the threshold of current intensity which will destroy hair with a minimum of recurrences or complications. This threshold is easily established with the monopolar electrocoagulation method. For treating hypertrichosis with the monopolar diathermy needle, a single tube apparatus is used (the hook-up is illustrated in the accompanying chart). It is adjusted

to furnish a feeble amount of current with a greater than usual range of variation giving an unusually fine adjustment of weak current. The body terminal, or indifferent electrode, as illustrated, is dispensed with. The utilization of only one electrode makes for a greatly simplified technic. The intensity is controlled by a rheostat attached to the front plate of the machine. At the commencement of the treatment the current is adjusted to suit the convenience of the operator and the sensitivity of the patient. I use fine steel needles attached to the cord by means of a pencil type holder. The make and break of the current are controlled by a foot switch. The strength of the current is varied to suit each patient, and the size and shape of the needle used are changed according to the needs in individual cases.

In the use of any needle method of epilation, a comparatively simple procedure, experience is one of the most important factors for success.

Comparison of Methods for Removal of Superfluous Hair

Method	Control of Current	Terminals	Discomfort	Scars	Approximate Speed per Hair	Recurrence	Tattooage
Single needle electrolysis	Patient and operator	2	Some	Possible	10 to 30 seconds	Occasional	Possible
Multiple needle electrolysis	Patient and operator	2 to 12	Less	More likely	1 minute	Frequent	Possible
Diathermy needle epilation	Operator	1	Least	Possible	Instantaneous to 2 seconds	Occasional	Impossible

The follicle may be judged destroyed when the hair can be removed with absolutely no resistance. With the diathermy method almost instantaneous destruction of the follicle may be expected. The effort required for initial calibration of the machine's output to find the threshold of destruction of the papilla with high probability without damaging the contiguous tissue is the most difficult task faced by the operator. Once this adjustment is obtained, the remainder of the technic is easy. With the coagulating current, exposure to the current flow is almost instantaneous; therefore, multiple needles are not needed. The single cord used in the operation makes for a neat and simple operating field, uncluttered by wires and needles. After several test hairs are epilated, the amount of current necessary to destroy each hair in an instant's exposure is established by adjustment of the rheostat. The treatment then progresses rapidly. A few hairs may return after removal by any needle method.

After some experience with patients seeking epilation, certain conclusions based on the behavior of these patients may be offered. The

operator must keep in mind that previous to consultation each patient subjects herself to some form of self treatment. Usually this is accomplished by pulling out the hairs with a forceps or a hair-pulling plaster. Thus, in an area in which the operator counts and contemplates removing one hundred hairs, one hundred hairs may be visible, but twenty or thirty empty follicles, temporarily robbed of hair shafts through mechanical or chemical removal, are concealing growing hairs which are invisible at first inspection but which will appear in several weeks to confuse the inexperienced operator. Many hairs which the patient regards as "returned" after treatment are returned self-treated hairs. A true return occurs when the papilla is not correctly approached or the current is too weak. A stiff and sharp needle even when correctly introduced may perforate the channel. Thick needles are useless. Scar formation may be caused by too short a space of time between the treatments, too small interspaces between hairs or overdosage.

SUMMARY AND CONCLUSIONS

The energized needle methods of removing superfluous hair are discussed. The diathermy needle method of epilation deserves more widespread use. The technic is simple. One terminal is sufficient. It is faster than electrolysis. Diathermy is at least as safe as any needle method. Multiple needles are not needed, since the treatment time per hair is almost instantaneous. The cosmetic effect is excellent.

540 North Michigan Avenue.

ERYTHEMA OF THE PALMS ASSOCIATED WITH PREGNANCY

ROBERT C. LOFGREN, M.D.
PHILADELPHIA

The cause of vasomotor changes in the skin is often difficult to determine, and the role that hormones play in these changes has been one of the more recent subjects for experimental study. Pregnancy, with its altered physicochemical state and its apparent relation to various cutaneous changes, has always been a complex problem. The recording of any new evidence on the apparent relation between pregnancy and cutaneous changes appears to be warranted.

Three cases of palmar erythema associated with pregnancy are reported, and possible explanations for this phenomenon are advanced. In 1 case an attempt was made to reproduce the erythema by the administration of estrogenic substances.

Palmar erythema was first reported by Lane [1] in 1929. Since a familial factor was demonstrated in his 2 cases, the condition was named erythema palmare hereditarium. The cases reported since 1929 have been reviewed in a recent paper by Walsh and Becker.[2] In addition to 11 cases which they collected from the literature, 9 cases of their own were added. In 4 of their cases, the palmar erythema appeared during pregnancy and showed an associated development of naevus-araneus-like lesions on the arms, face, neck and upper part of the chest. Feldman [3] reported a case of palmar erythema appearing during pregnancy but made no mention of telangiectatic vessels or of a family history of the condition. In the 3 cases to be described, there was no history of a familial factor, nor were any naevus-araneus-like lesions observed.

REPORT OF CASES

CASE 1.—Mrs. M. B., a white woman aged 29, was first seen on June 11, 1940. She was five and a half months pregnant when referred to me from the mater-

From the Hospital of the University of Pennsylvania and the Department of Dermatology and Syphilology, University of Pennsylvania School of Medicine, John H. Stokes, M.D., Director.

1. Lane, J. E.: Erythema Palmare Hereditarium (Red Palms), Arch. Dermat. & Syph. **20**:445 (Oct.) 1929.

2. Walsh, E. N., and Becker, S. W.: Erythema Palmare and Naevus-Araneus-Like Telangiectases, Arch. Dermat. & Syph. **44**:616 (Oct.) 1941.

3. Feldman, S.: Case for Diagnosis (Palmar Eruption Due to Endocrine Disturbances During Pregnancy), Arch. Dermat. & Syph. **39**:784 (April) 1939.

nity clinic because of a peculiar redness of the palms. The palmar erythema was noticed by the patient when she was about six weeks pregnant. The erythema gradually appeared and slowly extended to involve most of both palms, especially the pressure areas. It reached its maximum intensity in a few weeks and then remained unchanged until after delivery. There was no associated burning, pain or throbbing. No change in redness was noted on alteration of position of the arms. A similar erythema was present during each of two previous pregnancies. The redness appeared about the sixth week of each pregnancy and disappeared shortly after delivery. The two previous pregnancies resulted in the delivery of two healthy male infants; one boy is now 4 years old, while the other died in infancy.

Family History.—There was no history of a similar condition in the family. The mother, brother and three sisters were living and well. The father died of heart disease at the age of 45 years. Two sisters died of causes unknown to the patient.

Past Health.—The patient's general health had been good. The menses were established at the age of 12 years, appeared regularly every twenty-eight days and lasted about five days. The patient had pleurisy at the age of 2 years and an appendectomy at 19. She smoked about ten cigarets daily and drank an occasional glass of beer. Magnesia magma was taken about twice a week as a laxative.

Physical Examination.—Except for the erythema of the palms, the only changes in the skin were a few scattered flat and pedunculated pigmented nevi on the neck. The uterus was moderately firm and extended to the umbilicus. Examination of the heart revealed a soft systolic murmur audible over the entire precordium but most marked over the pulmonic area. The blood pressure was 110 systolic and 60 diastolic. The central nervous system presented no abnormalities. The palms exhibited a cherry redness which was intense over the pressure points, i. e., the thenar and hypothenar eminences, the distal portion of the palm adjacent to the phalanges and the finger tips. The erythema extended around the hypothenar eminence toward the dorsa of the hands but did not extend beyond the palm. The erythema also extended around the tips of the fingers to be faintly visible at the base of the finger nails. There were no telangiectases, hyperhidrosis, scaling or keratoses. Pain sensibility was normal. There was no increase in warmth of the palms as determined by palpation. There was no change in the redness of the palms after submersion of one of the hands in ice water for five minutes, nor was there any change in color or intensity of color on elevating or lowering the hands. The soles presented no erythema. Figure 1 *A* shows the condition of the palms during pregnancy. A picture taken on infra-red film at the same time showed an accentuation of the larger blood vessels but did not bring out the erythematous regions to good advantage.

Laboratory Data.—Serologic tests of the blood for syphilis gave negative results. Examination of the blood showed 75 per cent hemoglobin, 3,700,000 red cells and 9,350 white cells, with a differential count of 83 per cent polymorphonuclear leukocytes, 10 per cent lymphocytes, 5 per cent monocytes and 2 per cent eosinophils. The sedimentation rate of the blood was 19 mm. in thirty minutes.

Course.—The patient was delivered of a healthy living baby girl weighing 7 pounds 2½ ounces (3,246 Gm.) on Oct. 20, 1940. While the patient was in the hospital for the delivery, a harsh systolic murmur at the base and apex of the heart was heard, which was interpreted as being due to inactive rheumatic

heart disease. There was no edema of the ankles or cardiac enlargement. The electrocardiogram showed no evidence of myocardial damage. Dental examination revealed no foci of infection. The tonsils were found to be septic.

After discharge from the hospital, the patient was observed in the dermatologic outpatient department every two to three weeks. Disappearance of the

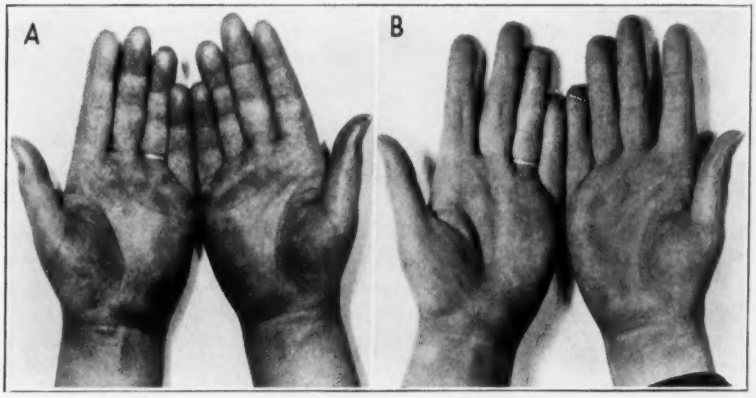


Fig. 1 (case 1).—*A*, palmar erythema at about the sixth month of pregnancy. *B*, disappearance of erythema of palms about four months after delivery.

Fig. 2 (case 1).—Erythema of the palms after one week of treatment with estrogen. The erythema is greater than it was during the nonpregnant period.

erythema was gradual, and no appreciable change was noted until February 1941. The resulting diminution in erythema is shown in figure 1 *B*. The menses were reestablished in January, and the first normal five day period began on February 12.

Case 2.—Mrs. H. McC., a 23 year old white woman, was first seen in the dermatologic department on Jan. 2, 1941, having been referred by the maternity

clinic because of a palmar erythema. This erythema appeared on the palms shortly after conception and was also present during the only previous pregnancy. A few weeks after the delivery of the first child the erythema disappeared. This child is now a healthy boy of 18 months. The erythema was never noticed at any time other than during a pregnancy. The patient was hospitalized before the onset of labor because of impending cardiac decompensation. It was during this hospitalization that attention was directed to the palmar erythema.

Family History.—The mother, two sisters and two brothers were in good health. The father died at the age of 50 years from heart disease. No one in the family other than the patient apparently ever had red palms.

Past History.—The patient's general health had been only moderately good. A tonsillectomy was performed at 11 years, and the patient had pneumonia at the age of 12 years. During the first pregnancy a cardiac lesion was first discovered, but no history suggestive of rheumatic fever could be elicited. Menstruation began at the age of 14. The periods occurred regularly every twenty-eight days and lasted four to five days. The last menstrual period began on March 26, 1940.

Physical Examination.—There was a cherry redness of the pressure points of both palms, which also extended around the tops of the fingers to the bases of the finger nails. The erythema assumed a retiform configuration on the palms. The centers of the palms were relatively free of erythema. The soles presented no definite redness. The cheeks and lips were moderately flushed. The rest of the cutaneous surface appeared normal. An examination of the heart revealed a systolic and diastolic murmur audible at the apex, which was interpreted as evidence of mitral stenosis and insufficiency resulting from rheumatic heart disease. There was no cardiac enlargement, nor was there dependent edema. The blood pressure was 125 systolic and 75 diastolic.

Laboratory Data.—The urine was normal. Examination of the blood revealed 70 per cent hemoglobin, 3,740,000 red cells, a normal white cell count and a normal differential count. Serologic examination of the blood for syphilis gave negative results. Repeated smears of the sputum were negative for the tubercle bacillus. Total serum proteins were 5.56 Gm. per hundred cubic centimeters. A roentgenogram of the chest taken on Nov. 26, 1940 was reported as normal.

Course.—While in the hospital, the patient was digitalized and then given a maintenance dose of digitalis, 1½ grains (0.1 Gm.) daily. An infection of the upper respiratory tract was treated symptomatically. On Jan. 4, 1941 the cutaneous temperature of the palmar surface of the digits was reported to be 26 C. This was considered by the examiner to be normal for the existing room temperature. A healthy baby girl weighing 5 pounds 6½ ounces (2,452 Gm.) was delivered on January 15. On the ninth postpartum day the patient was discharged from the hospital. The patient was observed at intervals of two to three weeks for about four months, during which time the erythema gradually became less intense. On May 21, when she was last seen, only a slight mottling remained. The menses were reestablished on about February 16, and no temporary increased redness of the palms was noted at this time.

Case 3.—Mrs. H. McC.[4] (presented before the Philadelphia Dermatological Society on Sept. 19, 1941), a white woman aged 23, was first seen on Sept. 2, 1941. She was referred from the maternity clinic because of her complaint of redness of

4. Arch. Dermat. & Syph., to be published.

the palms for the past three months. The redness first appeared when she was about three months pregnant. The intensity of the erythema varied from time to time. There was no associated pain, itching, increased sweating or change in sensation. The patient had one previous pregnancy, which resulted in a miscarriage at about three months in May 1940. No erythema of the palms was noted at that time.

Family History.—No other member of the family ever had a similar condition, to the patient's knowledge. The mother, father and two sisters were living and well.

Past Health.—There have been no serious illnesses, operations or injuries. The onset of menstruation was at the age of 14. The menstrual periods occurred every twenty-eight days and lasted five to six days. The only previous pregnancy terminated in a miscarriage at three months.

Physical Examination.—The uterus was palpable 3 fingerbreadths above the umbilicus. There were no murmurs audible over the precordium. The blood pressure was 134 systolic and 88 diastolic. A few erythematous papules and pustules were scattered over the shoulders and thighs. A mottled cherry red erythema of both palms was present, especially over the hypothenar eminences and only slightly on the palmar surfaces of the fingers. The redness extended around the hypothenar eminences toward the dorsa of the hands and around the finger tips toward the bases of the finger nails. At a few points on the palms definite telangiectatic vessels could be seen. The surfaces of the palms were moderately moist. The soles showed no erythema.

Laboratory Data.—Serologic examination of the blood for syphilis gave negative results. Examination of the blood showed 70 per cent hemoglobin, 3,570,000 red cells, 10,850 white cells and a normal differential count. Vasodilatation tests and a study of the patient's peripheral blood flow revealed no abnormalities when examined in the vascular disease clinic.

Course.—The patient was delivered of a male infant on November 8. She was seen about five weeks after delivery, and by that time the erythema of the palms had almost completely disappeared.

INVESTIGATION

Because of the apparent relation of the erythema to pregnancy in these cases, it was decided to study the effect of the administration of an estrogen in producing palmar erythema, since this substance is increased during pregnancy and is reported to have vasodilating effects. Estradiol benzoate [5] suspended in sesame oil was given by intramuscular injection to a patient (case 1) about four and one-half months after delivery. The first injection of 10,000 rat units (50,000 U. S. P. units) was given on March 5, 1941, about one week before the patient's next expected menstrual period. An injection of this estrogenic substance was given every day for seven days in doses of from 10,000 to 20,000 rat units per day, a total of 120,000 rat units being given during this period. On the sixth day of treatment the patient noticed a slight

5. Dr. Gregory Stragnell and Dr. William H. Stoner of the Schering Corporation supplied the alphaestradiol benzoate employed in the clinical experimental work.

temporary flushing and sensation of warmth of the palms in addition to pain in the legs, which was a common premenstrual symptom. Treatment with the estrogen was discontinued after seven daily injections. The condition of the hands on the day after the injections were stopped is shown in figure 2. This photograph demonstrates a slight exaggeration of the erythema as compared with that present before the administration of estrogen. The patient's menses began two days after the discontinuance of the injections and continued for eleven days. They were accompanied by severe pains in the legs and general malaise. This severe reaction following the injections caused the patient to remain away from the clinic until April 14, 1941, at which time the palms were definitely more erythematous and had been this way for about four days. Most of this erythema disappeared by the third day of the menstrual period, which began on April 17. An effort was next made to determine the effect that the simultaneous administration of an estrogen and progesterone (desoxycorticosterone acetate) would have on the palms, but after four injections the patient was unable to visit the clinic, and this experiment had to be discontinued.

COMMENT

The hormones of pregnancy were considered the factors most probably responsible for the erythema of the palms in these cases. It is generally agreed that progesterone and estrogen increase many fold during pregnancy. Zondek [6] has shown that estrogenic substances rise rapidly during the third to fourth months of pregnancy, to reach a maximum in the eighth and ninth months and disappear a few days after delivery. Browne, Henry and Venning [7] stated that the progesterone level follows closely that of the estrogen. Progesterone is believed to be excreted in the urine as sodium pregnandiol glucuronidate and is found during the normal menstrual cycle only during the two weeks preceding menstruation. In early pregnancy the level is the same as the maximum reached during a normal menstrual cycle (5 to 10 mg. of pregnandiol excreted in the urine per twenty-four hours). It rises from the seventieth to the ninetieth day and parallels the rise of the estrogens to reach a maximum in the ninth month (60 to 105 mg. of pregnandiol excreted in the urine per twenty-four hours). It disappears abruptly from the urine within twenty-four hours after delivery. These investigators stated the belief that this increase in excretion of progesterone and estrogen is due to the

6. Zondek, B.: Die Schwangerschaftsdiagnose aus dem Harn durch Nachweis des Hypophysenvorderlappenhormons: Grundlagen und Technik der Methode, Klin. Wchnschr. **7:**1404 (July 22) 1928.

7. Browne, J. S. L.; Henry, J. S., and Venning, E. H.: Significance of Endocrine Assays in Threatened and Habitual Abortion, Am. J. Obst. & Gynec. **38:** 927 (Dec.) 1939.

formation of the hormones by the placenta. Gonadotropin, which arises from the chorion, appears immediately in the urine on conception, rises rapidly to a maximum at fifty to sixty days, remains at that concentration for a few days and then rapidly drops to a low level. It remains at this low level until about five to ten days after delivery, when it disappears. From these data, it would appear that if one of the hormones is responsible, either estrogen or progesterone would be the one most likely to cause vasodilatation in pregnancy.

Reynolds [8] summarized the effects of estrogen on the peripheral vascular system. He stated that while it is believed that estrogens are without noticeable effect on the mean level of arterial blood pressure or on the heart, there is evidence that they have a vasodilating action on the smallest blood vessels in certain parts of the body. He cited Mortimer, Wright, Bachman and Collip [9] as having shown that estrogen causes engorgement of the blood vessels in the nasal mucosa. Carloni [10] showed that the injection of estrogen into the human being is followed by a fall in the capillary pressure and a dilatation of the capillaries of the nail beds. Reynolds and Foster [11] mentioned Valle's work [12] showing a similar effect on venous pressures in the hand. Reynolds and Foster [13] have shown that the finger volume increases significantly in certain men between the ages of 20 and 30 years after they have received an intramuscular injection of estrogen. They showed that this increase in the size of the finger occurs promptly and is not associated with a rise in temperature of the skin and concluded that this indicated that the response consists of an augmented blood volume in the finger without appreciable alteration in the rate of blood flow. Reynolds and Foster [11] reported on the direct observation of the action of estrogen in the ear of ovariectomized rabbits, which showed that vasodilatation involves the smallest vessels lying beyond the arterioles. Reynolds stated that the

8. Reynolds, S. R. M.: Gynecic Physiology and the Gynecologist, Am. J. Surg. **48**:175 (April) 1940.

9. Mortimer, H.; Wright, R. P.; Bachman, C., and Collip, J. B.: Effect of Administration of Oestrogenic Hormones on Nasal Mucosa of Monkey (Macaca Mulatta), Proc. Soc. Exper. Biol. & Med. **34**:535 (May) 1936; cited by Reynolds.[8]

10. Carloni, E.: L'azione degli estratti ovarici sull'atteggiamento dei capillari e sulla loro pressione, nelle vane fasi della rivoluzione funziozionale utero-ovarica, Arch. di ostet. e ginec. **17**:327, 1930; cited by Reynolds and Foster.[11]

11. Reynolds, S. R. M., and Foster, F. I.: Peripheral Vascular Action of Estrogen, Observed in the Ear of the Rabbit, J. Pharmacol. & Exper. Therap. **68**: 173 (Jan.) 1940.

12. Valle, G.: Studio sulla pressione venosa in rapporto ad alcune condizioni normali patologiche e sperimentali della donna non gravida, Ann. di ostet. e ginec. **56**:1011 (July 31) 1934; cited by Reynolds and Foster.[11]

13. Reynolds, S. R. M., and Foster, F. I.: Peripheral Vascular Action of Estrogen in Human Male, J. Clin. Investigation **18**:649 (Nov.) 1939.

vasodilating action of estrogen may be associated with an increase in the concentration of acetylcholine in the tissues, although the mechanism by which this action is exerted in the vessels of the skin of human beings and rabbits is not established. The facts that indirectly support this idea are that the vasodilating action of estrogen in the ear of a rabbit can be inhibited by means of atropine, just as atropine inhibits the hyperemia induced in the uterus by estrogen. In addition, the acetylcholine content of the uterus of rabbits increases appreciably within an hour after the administration of estrogen. This coincides with the onset of a pronounced vasodilatation in the uterus. All these effects take place even if preliminary denervation of the part is carried out.

In view of the apparent experimental indication that estrogen has a vasodilator effect in the human being, it seemed that these cases of erythema of the palms associated with pregnancy might offer an excellent opportunity to observe clinically whether or not administration of estrogenic substance would cause vasodilatation and whether the erythema in these cases was due, at least partly, to estrogens. A total of 120,000 rat units of estrogen was given to a patient by intramuscular injection over a period of seven days during the week preceding the next expected menstrual period. By the end of that time there was a slight flaring of the erythema. No attempt was made to measure the daily excretion of estrogens in the urine because the values obtained from day to day even under normal conditions show decided variations when determinations are made for short periods. Since the patient experienced a menstrual period of eleven days following these injections rather than the usual one of five days, it is felt that a definite effect from the substance was obtained.

If the estrogen were the real cause of this patient's palmar erythema, it is not clear why so little response to this large dose occurred, unless the amount given was still much less than that produced in the body during pregnancy. The possible influence of progesterone must be considered. Possibly this substance has either a direct or a synergistic action in causing the erythema. Since the progesterone excretion in the urine is highest in the normal menstrual cycle for a few days before menstruation, it is of interest to note the increase of the patient's palmar erythema occurring during the few days before the second menstrual period following the injections of estrogen. This increased erythema largely disappeared by the third day of the second menstrual period. This period began approximately one month after the administration of the huge doses of estrogen. Opposing the theory that these two substances were acting synergistically is the fact that the estrogens injected intramuscularly one month previously should have been excreted before they had had an opportunity to act with the premenstrually increased

progesterone. Because of the patient's inability to attend the clinic regularly, I was unable to carry out an investigation on the effect of the combined administration of estrogen and progesterone in producing palmar erythema in this patient.

No erythema of the soles was noted. The absence of erythema of the soles in these cases might have been due to the increased tone of the vessels of the lower extremities compared with the vessels of the upper extremities, as shown by Pickering and Hess,[14] Horton, Roth and Adson,[15] and Allen and Crisler.[16] If this is true, then possibly there was enough of a vasodilator factor present from the estrogens to cause the erythema of the hands, but the factor was not sufficiently strong to cause vasodilatation in the feet, where the vascular tone was greater. However, it must be kept in mind that the vasodilatation produced by these investigators was accompanied by an increase in the temperature of the skin, whereas the vasodilatation experimentally produced by the injection of estrogenic substances caused no rise in the temperature of the skin according to Reynolds and Foster.[13]

It is an interesting observation that 2 of the patients described showed evidence of a previous rheumatic heart disease. In case 1 the signs of rheumatic heart disease were so slight early in pregnancy that they were almost overlooked. At no time did this patient show any signs of decompensation or congestion. The other patient (case 2) appeared to be on the verge of decompensation when she was at term. The palms in both cases were a bright cherry red rather than cyanotic, which one would expect if the erythema were due to congestive heart disease. There was no evidence of an active rheumatic heart disease in either of these patients.

There was no evidence to support the possibility that this palmar erythema was due to an avitaminosis or that it was a result of contact irritants. The blood picture ruled out the possibility of polycythaemia vera.

SUMMARY

Three cases of erythema of the palms associated with pregnancy are reported. In none of these cases were naevus-araneus-like lesions

14. Pickering, G., and Hess, W.: Vasodilatation in the Hands and Feet in Response to Warming the Body, Clin. Sc. **1**:213 (Dec. 21) 1933.

15. Horton, B. T.; Roth, G. M., and Adson, A. W.: Observations on Some Differences in the Vasomotor Reactions of the Hands and Feet, Proc. Staff Meet., Mayo Clin. **11**:433 (July 8) 1936.

16. Allen, E. V., and Crisler, G. R.: The Result of Intra-Arterial Injection of Vasodilating Drugs on Circulation: Observations on Vasomotor Gradient, J. Clin. Investigation **16**:649 (July) 1937.

observed, nor could a familial factor be established. In all of them the erythema either disappeared after delivery or definitely diminished in intensity.

In an effort to establish the possible cause of the palmar erythema, large doses of estrogen were administered daily to a patient for seven days. This was done about four months after delivery. By the seventh day the palms had become definitely more erythematous but were not as red as during the pregnancy. These observations indicate that the estrogen is in part responsible for the erythema of the palms that occurs during pregnancy.

An experiment to administer progesterone with estrogen was not completed because of the patient's inability to attend the clinic. Therefore, it was not possible to determine whether progesterone might have contributed to the production of the palmar erythema.

Various investigators have shown that a vasodilatation occurs when estrogens are injected into certain animals and human beings. The results of their experiments lend support to the belief that the palmar erythema associated with pregnancy is partly due to the increased amount of estrogen present in the body during gestation.

Dr. C. Bachman, of the maternity clinic, granted me permission to observe these patients, and Dr. F. L. Payne, of the gynecologic department, gave valuable suggestions.

CEREBRAL LESIONS FOLLOWING ADMINISTRATION OF NEOARSPHENAMINE

MULTIPLE SYMMETRIC FOCI OF HEMORRHAGIC NECROSIS OF THE BRAIN

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AND
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LOS ANGELES

Much has been written on the effects on the body in general and on the brain in particular of the arsphenamine group of drugs. The pathologic picture of what has been called postarsphenamine hemorrhagic encephalitis or, more recently, pericapillary encephalorrhagia [1] is well known to pathologists. Multiple petechial hemorrhages scattered throughout the white matter of the brain of a patient in whom symptoms of encephalitis have developed after repeated injections of some form of arsphenamine are not likely to be mistaken for any other lesions. Somehow the occurrence of associated symmetric foci of hemorrhagic necrosis as a specific entity and their possible significance apparently have been overlooked even by clinicians and pathologists who have given attention to the general problem. It is the purpose of this study to describe this unusual and interesting lesion and to consider its evident relation to hemorrhagic encephalitis, with which it is frequently associated. In an approach to this question, we shall briefly review the etiologic concepts of perivascular hemorrhage following administration of arsphenamine, make a survey of the literature on the question and finally attempt to analyze the observations made by us and discuss their probable significance.

SIGNIFICANCE OF POSTARSPHENAMINE CEREBRAL VASCULAR CHANGES

The cause of the peculiar production of petechial hemorrhages in the brain has been the subject of much discussion since the time of Ehrlich, who first postulated the possible mechanism of its production.

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1. Globus, J. H., and Ginsburg, S. W.: Pericapillary Encephalorrhagia Due to Arsphenamine, So-Called Arsphenamine Encephalitis, Arch. Neurol. & Psychiat. **30**:1226-1247 (Dec.) 1933.

Ehrlich [2] concluded that the essential cause of this condition was a dilatation of the small blood vessels of the brain, a process which is followed by edema and perivascular bleeding. He stated the belief that this vascular change was produced by some derivative of arsphenamine which had to be formed within the body, as suggested by the delay of several days after the injection of the drug. It was thought that this derivative was an oxidation product, paraaminophenylarsenoxide. It was also stated by Ehrlich that this excessive dilatation of the small blood vessels was due to an insufficient amount of epinephrine in the circulating blood. This conclusion was based on the observation that several patients who had been treated with the drug and who were becoming stuporous promptly recovered when vigorously treated with epinephrine. The possibility of a too rapid destruction of spirochetes was also entertained as playing a part in the process.

As time went on, other theories were proposed to account for this condition, among which were renal disease with faulty elimination, Herxheimer's reaction due to sudden release of large amounts of endotoxin and the precipitation of blood proteins with the production of multiple small emboli, all of which possible factors have been discussed by Scott and Moore.[3] In a more detailed consideration of the likely causes of the small perivascular hemorrhages following arsphenamine therapy, Globus and Ginsburg [1] indicated what seems to be the truth of the situation when they stated that the essential factor was an injury to the blood vessel wall, although they were not just sure what the cause of that injury might be. It was their belief that the hemorrhages were the direct and selective effect of arsphenamine on the vascular endothelium. They also emphasized an evident fact when they stated that the Herxheimer reaction had no possible influence, since the same sort of lesion followed the use of arsphenamine in nonsyphilitic conditions. Landsteiner and Jacobs,[4] on the basis of their experience with guinea pigs, showed that preliminary sensitization very likely was responsible in no small degree for the ultimate lesion. In describing the histologic changes of the lesion, Russell [5] suggested that the small hemorrhages in the brain were due to increased permeability of and perhaps actual damage to the vessel wall. It was thought that peri-

2. Ehrlich, P.: Deaths After Salvarsan, Brit. M. J. **1**:1044-1045 (May 9) 1914.

3. Scott, E., and Moore, R. A.: Fatalities Following the Use of Arsphenamine, Am. J. Syph. **12**:252-262 (April) 1928.

4. Landsteiner, K., and Jacobs, J.: Studies on Sensitization of Animals with Simple Chemical Compounds: Anaphylaxis Induced by Arsphenamine, J. Exper. Med. **64**:717-721 (Nov.) 1936.

5. Russell, D. S.: Changes in Central Nervous System Following Arsphenamine Medication, J. Path. & Bact. **45**:357-366 (Sept.) 1937.

vascular necrosis and demyelination were due to the escape of toxic material into the surrounding nerve tissues. The additional possibility of stasis was suggested by Smith and Newhill,[6] who observed that hemorrhages were most apt to occur where the blood vessels branched. With many others, they also concluded that personal idiosyncrasy played an important role in any case.

In this report we plan to show that, in addition to the focal vascular lesion, which permits escape of blood into the perivascular tissues and produces in some instances a perivascular necrosis or demyelination, some larger vascular influence is at work which in some cases favors the occurrence of groups of these individual lesions in symmetric situations in the nuclear masses as well as in the white matter of the brain.

COLLECTED EXAMPLES OF SYMMETRIC FOCI OF NECROSIS

As stated previously, the lesion which forms the subject of this study has not been specifically described by any known previous writer on the subject, although in the descriptions of the brain in cases of hemorrhagic encephalitis such foci of hemorrhagic necrosis have been mentioned, and in a few cases an illustration of the lesion has been furnished. Scott and Moore,[3] for example, described small dark necrotic areas in the roof of both lateral ventricles with similar areas in the posterior thalami, the crura cerebri and the pons. Globus and Ginsburg [1] described in their first case diffusions of extravasated blood in both thalami, with similar areas in the hippocampus, the tegmentum of the midbrain and the pons and cerebellar cortex. In their second case the lesions were small and generally distributed in the white matter of the cerebral hemispheres. These lesions proved to be confluent petechial hemorrhages. A symmetrically disposed lesion was also found in the brain stem. Black [7] found lesions in both caudate nuclei, in the right corona radiata and at the bases of both temporal lobes, which may well have been confluent petechial hemorrhages. In the case reported by Smith and Newhill [6] a good photograph of such a lesion was reproduced, bilateral lesions being found in the claustrum and internal capsule. In the case of Kuehn, Keating and von Haam [8] areas of softening were found in both thalami of a pregnant woman, aged 24, who died after the third injection of neoarsphenamine. Undoubtedly, many other cases have been observed throughout the years since neoarsphenamine was introduced for the treatment of syphilis, but a survey of available literature failed to bring to light any additional instances.

6. Smith, D. C., and Newhill, H. P.: Arsenical Encephalitis, South. M. J. **32**:381-387 (April) 1937.

7. Black, W. C.: Death from Hemorrhagic Encephalitis Following Treatment with Sulpharsphenamine, Am. J. Dis. Child. **51**:609-613 (March) 1936.

8. Kuehn, C.; Keating, R. A., and von Haam, E.: Arsenical Encephalitis During Pregnancy [case 2], Am. J. Obst. & Gynec. **36**:122-126 (July) 1938.

REPORT OF CASES

CASE 1.—*Extreme nervousness, involuntary urination and aphasia in a young Mexican woman following an unknown number of injections of arsphenamine. Development of mild meningeal signs and status epilepticus. Death. Focal hemorrhagic necrosis in the basal ganglia of both cerebral hemispheres.*

J. M., a young Mexican woman (whose exact age could not be determined) was admitted to the Los Feliz Hospital on June 15, 1922, with the complaint of extreme nervousness. It was learned that the patient had been treated with an unknown number of injections of what was called "salvarsan" (possibly neoarsphenamine). Soon after the patient was admitted involuntary urination developed. On June 17 it was noticed that the patient did not speak (probably aphasia) and signs of mild meningeal irritation were discovered. It was also observed that she was somewhat cyanotic.

Because the patient's condition was evidently getting worse, she was referred on June 17 to the Los Angeles County Hospital. While she was still in the examining room, a generalized convulsion developed, and she was comatose by the time she reached the ward in the neurologic service. During the next few hours she had one convulsion after another, in spite of efforts to control them.

On examination, the patient was found to have contracted, fixed pupils. She had repeated episodes of extensor rigidity, followed by residual spasticity in the arms. Both Brudzinski and Kernig signs were elicited. The knee jerks were bilaterally sluggish, and an equivocal Babinski sign was present on the right.

A lumbar puncture disclosed increased pressure of the cerebrospinal fluid. The fluid itself was clear and colorless and contained 12 lymphocytes per cubic millimeter. The Wassermann reaction of the spinal fluid was strongly positive, and the colloidal gold curve was 1233320000.

Death occurred on June 18, about three days after the onset of symptoms and the day following the patient's admission to the hospital.

At autopsy, performed by Dr. George D. Maner, a study of the viscera failed to disclose any gross lesions of any sort, the only abnormalities being found in the brain. The superficial leptomeningeal vessels were considerably congested. The convolutions of the brain were generally flattened, suggesting an edema of the brain. The brain tissue was softer than usual. Coronal sections of the brain disclosed numerous petechial hemorrhages which had a definite tendency to be grouped together, giving the affected areas a stippled appearance. These areas were located in the optic thalami and the posterior portions (tail) of the caudate nuclei in approximately symmetric positions. The average size of these fairly circumscribed areas was 0.8 cm. Three separate and distinct foci were discovered in each hemisphere. These lesions were stated by the pathologist to be the result of administration of arsphenamine.

This was the first of a series of verified cases of symmetric foci of hemorrhagic necrosis which have been disclosed at autopsy at the Los Angeles County Hospital. It is unfortunate that the exact character of the drug administered, its dosage and the number of injections administered could not be ascertained. Emergency admission to the hospital in an aphasic condition, persistent coma between convulsions and episodes of decerebrate rigidity and the absence of information as to when or where she had received the treatment made the clinical history

incomplete. It seems clear, however, that the patient had had some arsenical in the treatment for syphilis and from this treatment fatal cerebral lesions developed in the form of multiple symmetric foci of hemorrhagic necrosis.

CASE 2.[9]—*Three injections of neoarsphenamine for Vincent's angina. Coma two days after last injection. Partial recovery. Lethargic state for three months. Progressive failure to death three and a half months after onset. Old necrotic areas in the basal ganglions of both cerebral hemispheres.*

A 32 year old Caucasian woman was admitted to the hospital on Nov. 6, 1936, service of Dr. Samuel D. Ingham. It was learned that she had been given three injections of neoarsphenamine for a peridental infection diagnosed as Vincent's stomatitis. The exact amount of the drug administered at each injection could not be determined. The last injection was given on July 23, 1936. Two days later the patient became irrational and a few hours later lapsed into coma. After a few days in this state, the patient recovered to the point where she could be fed. However, she did not improve beyond this point and remained in a lethargic condition until October 31, when she began to fail. She was no longer able to eat and had to be fed by tube. The temperature was irregular. The patient became restless and then lapsed into coma. It was in this condition that she was admitted to the Los Angeles County Hospital on November 6.

On examination the patient was found to be deeply stuporous. The general examination showed no essential abnormalities. On neurologic examination, the upper extremities were found to be flaccid and the lower ones spastic. Irregular clonic contractions were occasionally observed. The neck was slightly rigid. The deep reflexes were present, active and bilaterally equal.

The Wassermann reactions of the blood and spinal fluid were negative. The spinal fluid pressure on November 9 was found to be only 40 mm; 4 lymphocytes per cubic millimeter and a total protein content of 0.071 Gm. were found to be present. The colloidal benzoin curve was 00000331000000.

On November 9 the patient was reported as crying and moaning constantly, being unable to eat. On November 12 the temperature rose to 105 F. and pulmonary edema developed, resulting in death the following day.

At autopsy, performed by Dr. P. C. Humphreys, a resident pathologist, a terminal bronchopneumonia, evidently the immediate cause of death, was found, but there were no visceral lesions. The essential lesions were found in the brain. A generalized thickening of the leptomeninges was found, together with a moderate degree of cortical atrophy in both frontal regions. Coronal sections of the brain disclosed small symmetric areas of yellowish discoloration and softening in the external capsule beginning at the point opposite the head of the caudate nuclei and extending backward to the anterior limits of the thalami. Similar areas of softening were found in the optic thalami (fig. 1). These different lesions varied between 0.5 and 1.3 cm. in diameter. The section through the posterior parietal region showed a gross yellowish discoloration of the cortex in this region.

A detailed microscopic study showed a thickening of the meninges by fibrous proliferation. The cortex showed some increase in the glial elements. A section

9. This case has been reported under another title by Dr. Elinor Ives, then resident in the neurologic service (Disseminated Areas of Necrosis in the Brain Following Intravenous Injection of Neoarsphenamine, Bull. Los Angeles Neurol. Soc. **2**:140-143 [Sept.] 1937).

through the area of gross discoloration in the calcarine area showed some focal necrosis of the superficial layers with edema of the gray matter. In the preserved areas there was an increase in number of the oligodendroglia, particularly those about the nerve cells (perisatellitosis). The walls of the blood vessels appeared thickened.

Sections through the margins of the gross necrotic lesion in the external capsule showed a central defect surrounded by a loose glial scar composed of hyalinized astrocytes, infiltrated with round cells, a few fibroblasts and phagocytic cells. The regional blood vessels were surrounded by a thick cuff of lymphocytes.

Sections through similar areas in the optic thalami showed a similar reaction, suggestive of those following foci of softening due to vascular occlusion. Some pigment was deposited in this area, suggesting the presence of previous hemorrhage.

In this unusual case, the patient evidently had an encephalitis following the three injections of neoarsphenamine for Vincent's stomatitis, and in the process a group of focal necrotic lesions of the brain had

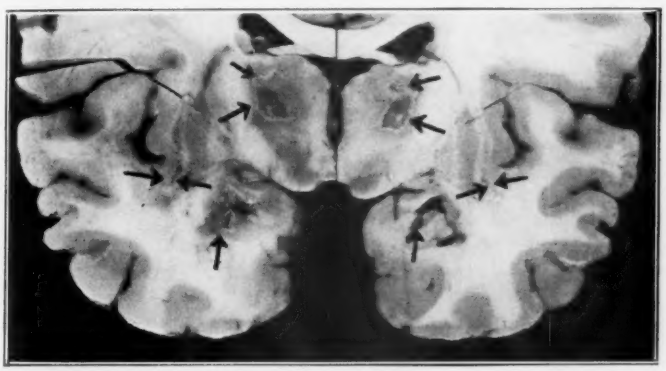

Fig. 1 (case 2).—Cross section of the brain showing old areas of hemorrhagic necrosis in the right and left lateral thalamic nuclei, external capsules and terminal portion of right and left hippocampus.

developed. The patient made a partial recovery but ultimately succumbed to a terminal bronchopneumonia. This case seems to indicate that such focal lesions, as well as the more generalized involvement of the brain with petechial hemorrhages, are not necessarily fatal if they are not too large and too numerous. After three months we were privileged to see the residuals of the lesion described in its acute stage in the 6 other cases. The peculiar localization in the thalami seems, for some reason or other, to be fairly typical of the condition.

CASE 3.—*Headache, anorexia, collapse and convulsions in a young woman three days after a second injection of neoarsphenamine for syphilis. Death seven days after the injection. Multiple symmetric foci of hemorrhagic necrosis in the centrums of the cerebral hemispheres.*

A Mexican woman aged 24, admitted to the hospital in the service of Dr. Harold P. Hamilton, was in good health until a pregnancy in 1937, during which

vomiting was persistent. About a week prior to the delivery of a normal child, on April 7, 1937, a mild toxemia of pregnancy developed. About a year later, on April 20, 1938, she was admitted to a local health center for routine antisyphilitic treatment because she was found to have syphilis. She was seven months pregnant at the time. She was given 0.3 Gm. of neoarsphenamine intravenously on this occasion. One week later she was given a second injection of 0.45 Gm. of neoarsphenamine. A few hours after this injection the patient complained of pain at the site of injection. Two days after the injection she complained of headache,

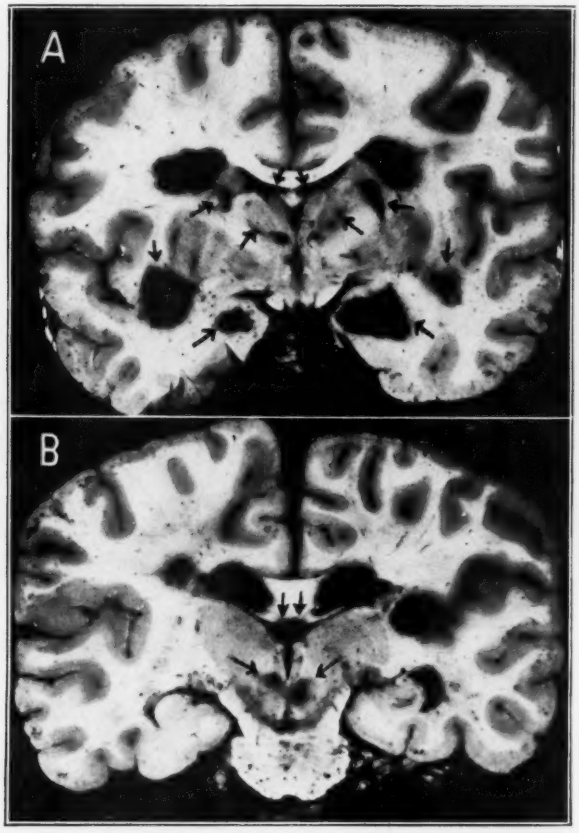

Fig. 2 (case 3).—*A*, cross section through the midbrain showing multiple areas of hemorrhagic necrosis. Note foci in the fornices and red nuclei (arrows). All areas are not symmetrically placed. *B*, cross section of the brain showing symmetric areas of hemorrhagic softening in the splenium of the corpus callosum, fornices and hypothalami.

vomited once and refused her evening meal. On the morning of April 30 she could not be aroused. Soon after she was found in this state she had a generalized convulsion. She was admitted on this day to the hospital.

Examination of the now stuporous patient showed that her pupils were dilated and failed to react to light, the upper extremities were spastic in flexion and all deep reflexes were hyperactive.

A lumbar puncture showed a pressure of 125 mm.; the fluid was clear and colorless, and there were 11 lymphocytes per cubic millimeter. The globulin was considerably increased; the chlorides amounted to 750 mg. and the sugar to 80 mg. per hundred cubic centimeters. The Wassermann reaction of the spinal fluid was negative. The colloidal benzoin curve was 1122100033321. The Wassermann reaction of the blood was negative.

The patient's progress was rapidly downward. On May 5 her temperature arose to 107.8 F. rectally, all extremities became flaccid and the deep reflexes could not be elicited. A peculiar gray cyanosis of the face and hands was noticed. Death came on the same day.

Autopsy, performed by Dr. W. V. Knoll, showed some acute congestion in the lower lobes of the lungs with small patches of inflammatory reaction. No other significant visceral changes were observed. The convolutions of the brain were generally flattened, suggesting a moderate degree of edema. A small focus of subarachnoid hemorrhage was found over each frontal lobe, but no other external lesions were evident. On coronal sections two small foci of red softening were found in the centrum of the left frontal lobe. Similar areas, symmetric in distribution, were found in the section through the internal capsule; these areas were lateral to and beneath the anterior tip of the lenticular nucleus and measured 2.1 by 1.1 cm. in diameter. A section of tissue just posterior to the optic chiasm disclosed several similar lesions in symmetric locations in the corpus callosum, the corona radiata and the lower portions of the external capsule (fig. 2). Still other lesions occupied almost identical positions in the parieto-occipital centrum.

Microscopically, sections through the edge of these hemorrhagic foci showed the entire area to be pale, necrotic and infiltrated with focal hemorrhages. In some of these foci considerable numbers of leukocytes were in evidence, and in the surrounding tissue in both gray and white matter a considerable increase in the oligodendroglia was evident. No inflammatory reaction was noticed in the meninges or the nerve tissues.

In this case the history is classic with the onset of symptoms. The history of toxemia of pregnancy suggests the possibility of renal damage about forty-eight hours after a second injection of neoarsphenamine. A considerable number of rather small foci were found in this case, all within the white substance of the brain. The focal hemorrhages becoming confluent with necrosis of the intervening tissue indicated the essential nature of these larger lesions.

CASE 4.—*Weekly injections of neoarsphenamine and bismuth for fourteen weeks in a young woman. Development of slight headache, fatigue and weakness. Gradual increase in lethargy progressing to coma. Repeated convulsions before death. Multiple scattered petechial hemorrhages and multiple symmetric foci of hemorrhagic necrosis in the corpus callosum and centrum of both cerebral hemispheres.*

A white woman aged 23 had been well until July 1937, when a dull occipital headache developed accompanied by a feeling of fatigue and weakness. Two weeks after the onset of these symptoms, it was found that she had a positive Wassermann reaction. Shortly thereafter she began to take weekly injections of neoarsphenamine, 0.5 Gm., and bismuth subsalicylate, 1½ grains (0.1 Gm.). She received fourteen such injections, the last one on November 6 at 5:00 p. m. On the following day the patient felt tired and weak and complained of a slight gen-

eralized headache. Toward evening she felt somewhat lethargic. On November 8 she became increasingly drowsy and lapsed into coma. She was admitted to the hospital, service of Dr. Samuel D. Ingham, at 10 p. m. of this day.

On examination, the pupils were found to be irregular and unequal, the left being larger than the right. Occasional nystagmoid movements were also observed. The neck was slightly rigid to flexion and Kernig's sign was positive. Both arms were held in a position of spastic extension; a bilateral extensor toe response was also elicited.

A lumbar puncture revealed a pressure of 180 mm.; the fluid was clear and colorless. The Wassermann and Kahn reactions were negative. There were 100

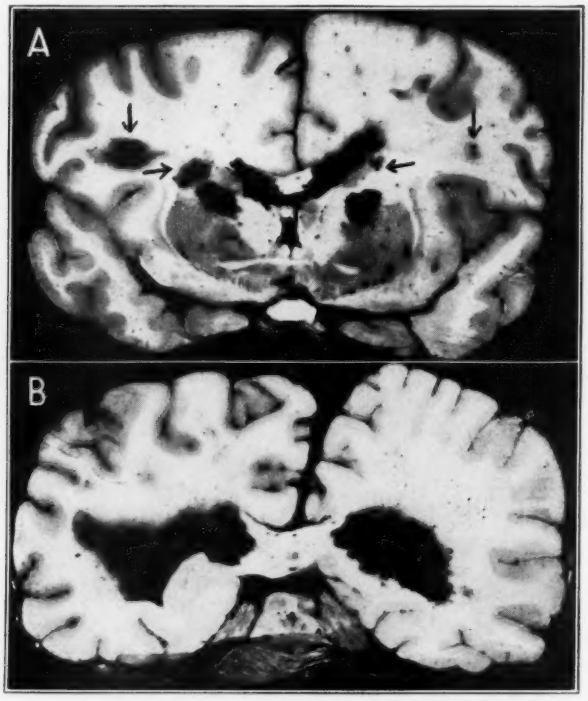

Fig. 3 (case 4).—*A*, cross section of the brain through the anterior commissure, showing symmetric areas of softening. Areas of necrosis are symmetrically located, though not always equal in size. *B*, hemorrhagic foci in the proximal portion of the forceps major and adjacent to the lateral ventricle.

red cells per cubic millimeter. The total protein content was 0.26 Gm. per hundred cubic centimeters. The Wassermann reaction of the blood was strongly positive.

During the evening of November 9 the patient had several generalized convulsions, which were controlled only with difficulty by heavy doses of sodium phenobarbital. Death came at 9:30 p. m.

At autopsy, performed by Dr. C. B. Hendricks, evidences of an early pneumonia were evident, with diffuse hemorrhagic infiltration into the parenchyma and areas of grayish consolidation. Small petechial hemorrhages in considerable numbers

were found in the mucosa of the stomach and small intestine. Petechial hemorrhages were also found in the cortex of both kidneys.

A chemical study of the tissues of the various organs gave the following results: kidney: arsenic 0.4 mg. per hundred gram of tissue and bismuth 0.4 mg. per gram of tissue; liver: arsenic 0.6 mg. and bismuth 0.65 mg.; brain: arsenic 0 and bismuth 0.4 mg.

The convolutions of the brain were slightly flattened, suggestive of a mild edema, but no gross lesions of the exterior were evident. Coronal section through the genu of the corpus callosum showed a number of scattered petechial hemorrhages throughout this structure and in addition patches of hemorrhagic necrosis in the corona radiata and the frontal centrum. Section through the anterior limb of the internal capsule showed foci of softening in the outer limits of the corpus callosum, the internal capsule and the centrum. These hemorrhagic foci tended to assume symmetric situations in the hemispheres, although this was not invariably the case. Section through the posterior limb of the internal capsule disclosed almost complete destruction of the corpus callosum and corona radiata as well as numerous spotlike hemorrhages in the internal capsule on the left side. There was an extensive focus of hemorrhagic necrosis in the proximal portion of each forceps major and adjacent cerebral centrum about the lateral ventricles (fig. 3).

Microscopically, sections through the margins of the foci of hemorrhagic necrosis demonstrated the nerve tissue to be completely necrotic and infiltrated with many small focal hemorrhages. The nerve tissue in the region of these foci appeared pale. The adjoining tissues were vacuolated and broken up by scattered hemorrhages. About some of the blood vessels the polymorphonuclear cells were increased in number, possibly the result of regional hemorrhage. A few pigment-laden phagocytic cells were found in the perivascular spaces of some of the regional blood vessels. Some of these vessels appeared to be occluded with some sort of hyaline material. The oligodendroglia presented evidence of increased proliferation and had undergone some degree of acute swelling.

This is an important case in that it indicates the essential relationship of the petechial hemorrhages which characterize the pathologic picture in hemorrhagic encephalitis and the lesion under consideration. Both were present in this case. The rather long period of treatment before the onset of the encephalitic manifestations is somewhat unusual. It is significant that in the presence of severe cerebral lesions no arsenic could be found in the brain, suggesting some organic combination as the actual cause of the vascular lesions.

CASE 5.—*Weekly injections of neoarsphenamine given in series of ten for one year to a young woman. Clinical evidences of progressive encephalitis. Death six days after last injection. Foci of hemorrhagic necrosis in the corpus callosum, internal capsule and forceps major of both cerebral hemispheres and in the midbrain and cerebellar peduncles.*

A white woman 25 years of age had been receiving antisyphilitic treatment for a year, consisting of alternating series (ten each) of injections of neoarsphenamine and of bismuth subsalicylate. As the seventh injection of neoarsphenamine in this particular course, 0.6 Gm. of the drug was given on June 24, 1938. On June 27 the patient complained of slight dizziness and headache (as though she had a "cold"), which symptoms became exaggerated on the following day. On June 29 she

vomited several times and gradually lapsed into coma. In this condition, she was brought to the Los Angeles General Hospital, where she was admitted to the service of Dr. Harold P. Hamilton.

On examination it was found that the patient was deeply comatose and cyanotic. The head and eyes were deviated to the right. A wide coarse horizontal nystagmus was also evident. The left arm was spastic, and the Babinski sign was present on the left.

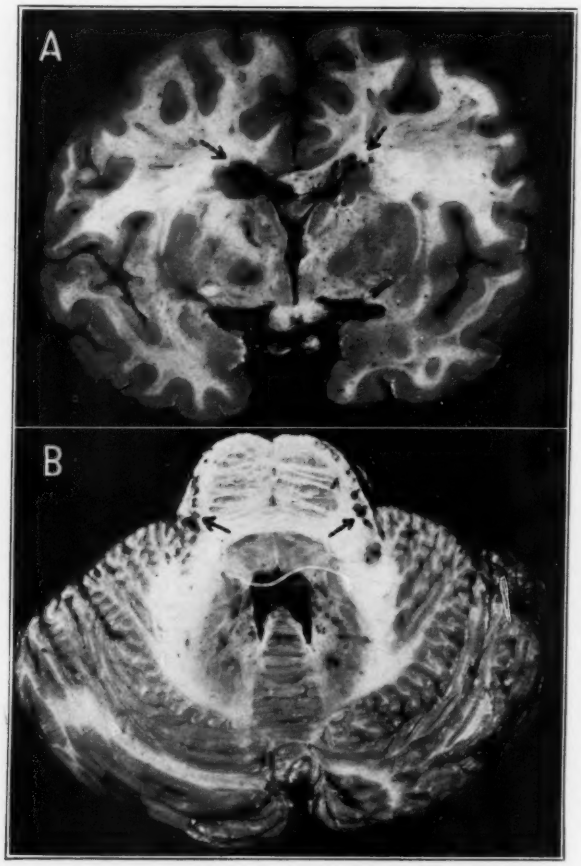

Fig. 4 (case 5).—*A*, section through the optic chiasm showing symmetric lesions in the corpus callosum. *B*, horizontal section through the pons and cerebellum showing numerous small symmetric hemorrhages in the outer fibers of the brachium pontis (arrows).

A lumbar puncture made on the day of admission disclosed the spinal fluid to be under an increased pressure of 240 mm. The fluid was clear and colorless and was otherwise (cytologically, chemically and serologically) normal. The Wassermann reaction of the blood was strongly positive.

The patient died on June 30.

At autopsy, performed by Dr. S. M. Soll, the essential lesions were found to be in the brain. The leptomeningeal blood vessels were definitely congested. A few small focal extravasations of hemorrhage were found in the meninges over the right occipital lobe. On coronal section, bilateral foci of necrosis were discovered in the ventral aspect of the body of the corpus callosum at the level of the anterior limb of the internal capsule. The extent of this bilateral necrosis was even greater in further sections. Hemorrhagic necrosis also involved the posterior limbs of both internal capsules, both parietal centrums, both forcipes majores, both sides of the midbrain and both middle cerebellar peduncles (fig. 4).

Histologically, the typical areas of necrosis infiltrated with hemorrhage and surrounding foci of infarction with satellite hemorrhages were present in the sections studied.

In this case is presented another history of many courses of neoarsphenamine without untoward effects. Then suddenly and without warning or reason, the blow fell. After a therapeutic dose of neoarsphenamine, the patient began to show the typical signs of hemorrhagic encephalitis, in the course of three days after the onset of symptoms of encephalitis and six days after the last injection. The numerous, large and unusually widespread lesions were of particular interest.

CASE 6.—*Frequent untoward reactions, consisting of nausea, vomiting and dyspnea, after injections of neoarsphenamine in a young woman over a course of eighteen months' antisyphilitic therapy. Symptoms of myelitis two days after last injection of drug. Death in six days. Multiple symmetric foci of hemorrhagic softening with hemorrhages into spinal cord.*

A white woman 27 years of age had been receiving weekly injections of neoarsphenamine and bismuth subsalicylate in alternate periods for eighteen months. It was learned that on several occasions after the injections of neoarsphenamine she had become ill, with pain in her extremities, nausea, vomiting and difficulty in breathing. The last injection of the drug was on Feb. 20, 1940. On February 22 fever, malaise and headache developed. The patient remained in bed at home for the next four days, thinking that she had the "flu." On February 26 she became somewhat irrational and paralysis of both legs developed; she was therefore admitted to the hospital, service of Dr. Harold P. Hamilton.

On examination, the patient was found to be restless and somewhat irrational, although she had sufficient possession of her faculties to complain that she "hurt all over." The pupils were small and irregular and did not react to light. A complete flaccid paraplegia was found to be present, with abolition of the deep reflexes in the lower extremities and loss of pain, temperature, touch and position sensibilities below the costal margins. There was also loss of sphincter control.

The spinal fluid pressure was found to be 175 mm. The fluid was slightly xanthochromic and contained 13 lymphocytes and 6 polymorphonuclear cells per cubic millimeter. The reaction to a Pandy test for increased globulin was 2 plus. The Kahn reaction of the spinal fluid was positive; the Wassermann reaction of the blood was negative and the Kahn reaction positive.

On February 28 she was noticeably weaker and showed some increasing difficulty in breathing and swallowing. There was also complete loss of the pharyngeal reflex. The clinical findings were those of transverse myelitis with ascending involvement of the spinal cord. The patient died on February 28.

At autopsy, performed by Dr. T. Bonynge, tissue was taken from the various internal organs as well as from the brain, and this was found to contain arsenic in excess of therapeutic amounts, as follows: liver, 470 micrograms per hundred grams of tissue; kidney, 510 micrograms; thyroid, 400 micrograms; pancreas, 128 micrograms; spleen, 206 micrograms; heart, 49 micrograms; muscle, 35 micrograms; sciatic nerve, 84 micrograms, and brain, 25 micrograms. The lungs presented moderately advanced pneumonia with areas of consolidation. The tracheobronchial tree was moderately injected and contained some hemorrhagic edematous

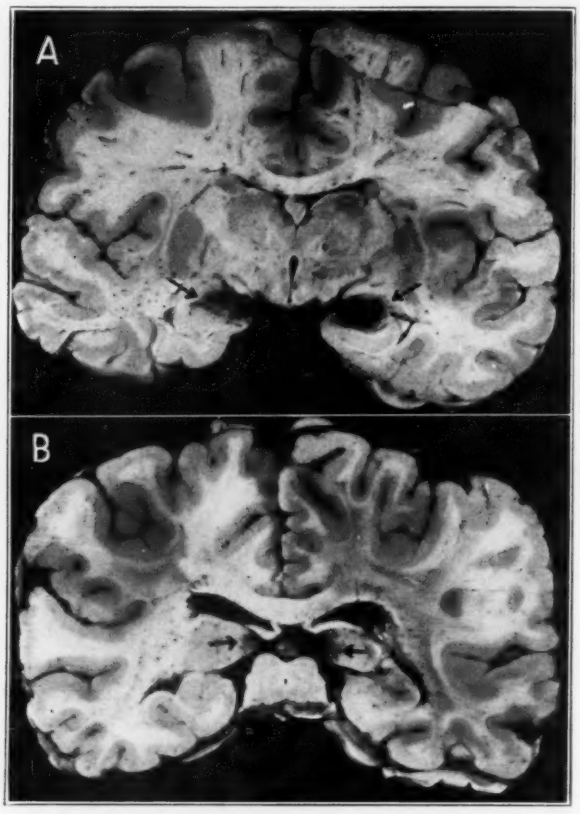

Fig. 5 (case 6).—*A*, section through the basal ganglions showing symmetric areas of hemorrhagic softening in the hippocampal gyri (arrows). *B*, cross section through the posterior thalamus showing symmetric hemorrhagic lesions in the right and left pulvinars.

fluid. The liver was slightly enlarged but was essentially normal on microscopic examination.

The brain presented evidences of advanced congestion. The arachnoid was chronically thickened in the vicinity of the pacchionian granulations. Coronal sections of the brain presented a number of foci of hemorrhagic softening, frequently occupying symmetric positions in the two cerebral hemispheres. The first pair of these lesions was located in the section through the anterior commissure and

found in the white matter below and lateral to the putamen, the right focus measuring 1.2 by 0.7 cm. and the left 0.9 by 0.7 cm. Section through the anterior portions of the temporal lobes presented smaller areas of necrosis in the hippocampus of each cerebral hemisphere. The area on the right measured 1.2 by 0.7 cm. and that on the left 1.5 by 0.9 cm. Section through the pulvinar of the thalami showed small hemorrhagic foci on the medial and posterior aspects of these structures, the lesion being slightly larger on the right (fig. 5). Other smaller foci, composed of several isolated petechial hemorrhages, were seen in the right side of the splenium of the corpus callosum and in the left internal capsule. Scattered hemorrhages were found in sections through the spinal cord.

Sections from blocks taken through the lesions showed areas of infarction as clear pale foci in the white substance of the brain. The tissue in these areas appeared to be friable. Foci of hemorrhage were scattered throughout the area. Myelin sheath preparations showed more or less complete loss of these structures in the infarcted area. Hemorrhages within pale foci were also found in different levels of the spinal cord.

This case is somewhat unusual in that there were a definite hemorrhagic myelitis as well as encephalitis present, evidently not a common situation, judging from our observations and the silence of the literature on the subject. The development of paraplegia and a sensory level suggested the localization of a lesion at about the eighth dorsal segment, although the subsequent development of difficulties in swallowing and breathing indicated subsequent involvement of higher levels. Microscopic as well as gross evidence of small hemorrhages into the cord verified this clinical supposition. Once again the symptoms came on after a long period of antisyphilitic therapy, although it would seem as though the repeated episodes of nausea and vomiting, diffuse pains and respiratory difficulties should have made some one suspect that the patient was susceptible to the drug.

CASE 7.—*Young woman with history of idiopathic grand mal, prior treatment of bartholinian abscess and secondary syphilitic lesions. Symptoms of encephalitis after second injection of neoarsphenamine. Progressive course with intermittent convulsions and residual left hemiplegia. Death three days after onset of encephalitic manifestations and six days after last injection.*

A Mexican woman of 21 years was first admitted to the hospital on Feb. 3, 1934, service of Dr. Harold P. Hamilton, with a history of frequent convulsive seizures for six months; a diagnosis of idiopathic grand mal was made. She was readmitted to the hospital on Nov. 14, 1939 for treatment of a bartholinian abscess, which ruptured spontaneously soon after her admission. Her third admission was on June 21, 1940, with secondary syphilitic lesions of the mouth and vulva and ulcerating perianal condylomas which had been present for two months. The patient was also in her eighth month of pregnancy.

The Wassermann reaction of the blood and of the spinal fluid was reported as strongly positive.

The patient received an intravenous injection of 0.3 Gm. of neoarsphenamine on June 27 and 0.45 Gm. of the same drug on July 1.

On the morning of July 4 the patient complained of generalized headache; later in the day she became somewhat confused and urinary incontinence developed.

A Babinski sign on the left side was the only abnormal neurologic finding at this time. The next day the patient had two generalized convulsions, following which there was a residual left hemiplegia. On the morning of July 7 she was found to be deeply comatose, and she died at 2 p. m. that day, three days after the onset of signs of encephalitis and six days after the second injection of neoarsphenamine.

Autopsy, performed by Dr. E. M. Butt, staff pathologist, revealed an enlargement of the liver, in which the lobular markings were indistinct. The uterus contained a normal fetus 40 cm. long. No other visceral alterations were present. A study of the various organs for arsenic disclosed the following values: kidney,

Fig. 6 (case 7).—*A*, cross section showing symmetric hemorrhagic softening in the forceps major. *B*, horizontal section through the brain stem and cerebellum showing symmetric hemorrhages in the basilar pons.

2,880 micrograms (2.8 mg.) per hundred grams of tissue; liver, 1,830 micrograms (1.8 mg.), and brain, 31 micrograms (0.031 mg.).

The external surface of the brain showed small foci of leptomeningeal hemorrhages, probably preterminal. The veins showed evidence of severe congestion. The basilar pons showed swelling and discoloration. On coronal section, a number of petechial hemorrhages were found in the left frontal lobe in the outer portion of the cerebral centrum. A few hemorrhages were also found in the inferior portion of the corpus callosum at the level of the tuber cinereum. These were in approxi-

mately symmetric positions on the two sides. Another section, through the mamillary bodies, showed hemorrhagic areas, somewhat larger but in about the same location. Section through the brain stem at the level of the red nucleus again showed these areas involving the region symmetrically. These areas, composed of a confluence of petechial hemorrhages, extended well back into the splenium of the corpus callosum and on into the forceps major still in the same symmetric position (fig. 6). There was extensive bilateral softening of practically the entire basilar pons, but the medulla was not affected.

Sections studied from blocks taken from the lesion in the left frontal lobe, the corpus callosum and the pons disclosed pale areas, evidently the result of focal infarctions or small hemorrhages. In the subcortical area the small blood vessels seemed to be thickened, and some of them were occluded by thrombi or emboli. In the lesion of the corpus callosum there was a diffuse infiltration of this structure with red blood cells. There was also an accumulation of round cells about the regional blood vessels. The tissue in this region was pale and less well stained than normal, presumably because of anemia incident to hemorrhage and pressure. Section through the basilar pons revealed a diffuse hemorrhage throughout this structure with focal softening and degeneration of the cell groups (pontile nuclei) in this region. There was much free hemorrhagic pigment in the region. The involved tissue was loose and friable. About some of the blood vessels there appeared to be many leukocytes, probably the result of the hemorrhage.

One can almost certainly trace the whole tragic history of syphilis and its unforeseen results in this case. The primary infection, evidently complicated by gonorrhea, took place in the fall of 1939, the primary syphilitic lesion evidently being masked by the development of the bartholinian abscess, with pregnancy very likely the result of the same sexual contact. The serologic reactions, both blood and spinal, were found to be strongly positive, and an intensive program of treatment was planned to spare the child from congenital syphilis. After the second injection of neoarsphenamine the unfortunate complication of encephalitis developed, which proved fatal.

COMMENT

A review of the reported cases of hemorrhagic encephalitis in which mention is made of larger foci of hemorrhagic necrosis, as well as of the cases which have come to our attention, clearly indicates that in addition to widely scattered "flea bite" hemorrhages which occur in the brain, areas of hemorrhagic necrosis may be found either associated with the smaller discrete hemorrhages or occurring as separate and distinct lesions. Since this is true, a larger view of the causation and mechanism of these lesions will have to be taken. That it is primarily a problem of pathogenesis and pathology is suggested by the fact that the clinical factors in both types of cases seem to be very much the same, with the same tendency to occur in young women with onset of symptoms within a few days after an ordinary therapeutic dose of neoarsphenamine has been given. This unfortunate accident usually occurs after two or three

injections of the drug, although in some instances it may develop only after many injections have been given. Perhaps the most outstanding difference in clinical manifestations in the two groups of cases (of scattered petechial hemorrhages versus larger symmetric foci of necrosis) was the greater tendency for the occurrence of focal neurologic signs in the latter group, particularly in the form of motor phenomena.

Directing attention, therefore, to the problems of mechanism and the characteristics of the resultant lesion, a number of questions present themselves. Why should the lesions produced by neoarsphenamine occur as discrete petechial hemorrhages in one case and larger foci of hemorrhagic softening in another? Why in the latter instance should the lesions tend to assume symmetric situations in the two sides of the brain? Do the lesions show a predilection for any particular areas of the brain, and if so why?

VARIATION IN TYPE OF LESIONS OF NEOARSPHENAMINE ENCEPHALITIS

In the 12 cases of cerebral lesions following neoarsphenamine (or some allied type of arsenical) therapy, reports of which are in the files of the pathologic laboratory of the hospital and are now available to us for study, it seems evident that four general types of lesion may be found: (1) petechial hemorrhages scattered generally throughout the white matter of the brain, typical hemorrhagic encephalitis, (2) gross cerebral hemorrhage, (3) multiple and usually symmetric foci of red softening involving both the gray and white matter of the brain and (4) a combination of any two (or possible three) of these lesions. The observations in these cases are indicated in the accompanying table. In this group of 12 cases, there are 4 cases of multiple petechial hemorrhages, 1 case of gross cerebral hemorrhage, 6 cases of multiple symmetric foci of red softening and 1 case of both disseminated hemorrhages and symmetric foci of red softening. If these few cases are typical of the group of cases at large, then multiple foci of red softening is the most common cerebral lesion after arsphenamine intoxication. If this is true, the real nature of some of these lesions must have been misunderstood in the past.

Disseminated Petechial Hemorrhages.—It is this lesion which has been commonly described as hemorrhagic encephalitis following injection of drugs of the arsphenamine group. These small lesions vary considerably in number. In some cases the white matter of the entire brain (and at times the spinal cord as well) has been literally "peppered" with these discrete ring or ball hemorrhages. The hemorrhages are usually limited sharply to the white matter, but occasionally the gray matter may be the seat of some of them. This is well illustrated in one of our cases (case 8).

CASE 8.—An anemic white woman aged 42 died with symptoms of encephalitis twenty-one days after the last known injection of neoarsphenamine (the third injection of a third series given over a period of two years). Scattered ecchymotic spots were observed in the skin before death and were found in the heart muscle and mucosa of the bladder at autopsy. The white matter of the entire brain was "peppered" with petechial hemorrhages up to 1 mm. in size. A few spots were found in the cerebellar cortex and in both lenticular nuclei. The advanced anemia

Lesions of the Brain Following Intoxication with Drugs of the Arsphenamine Group

Case	Age	Sex	Drug Used	General Lesions	Cerebral Lesions
1	20	F	Arsphenamine	None	Multiple symmetric foci of red softening
2	32	F	Neoarsphenamine	Bronchopneumonia	Multiple symmetric foci of hemorrhagic necrosis
3	24	F	Neoarsphenamine	Bronchopneumonia	Multiple symmetric foci of hemorrhagic necrosis
4	23	F	Neoarsphenamine	Hemorrhagic pneumonia; petechial hemorrhages in mucosa of gastrointestinal tract and cortex of kidneys	Disseminated petechial hemorrhages; multiple symmetric foci of hemorrhagic necrosis
5	25	F	Neoarsphenamine	None	Multiple symmetric foci of hemorrhagic necrosis
6	27	F	Neoarsphenamine	Bronchopneumonia and enlarged liver	Multiple symmetric foci of hemorrhagic necrosis
7	21	F	Neoarsphenamine	Pregnant uterus and enlarged liver	Multiple symmetric foci of hemorrhagic necrosis
8	42	F	Neoarsphenamine	Petechial hemorrhages in heart muscle and mucosa of bladder; fatty changes in liver	Disseminated petechial hemorrhages
9	29	F	Sulfarsphenamine	Petechial hemorrhages throughout visceral mucosa and lining of pericardial, pleural, and peritoneal cavities	Gross cerebral hemorrhage (left insula and temporal lobe)
10*	38	F	Arsphenamine	None	Disseminated petechial hemorrhages
11	19	M	Neoarsphenamine	Bronchopneumonia; petechial hemorrhages in mucosa of gastrointestinal and urinary tracts	Disseminated petechial hemorrhages throughout white matter of brain
12	40	M	Neoarsphenamine	Multiple petechiae of skin, heart, pleura, stomach and kidneys	Disseminated petechial hemorrhages of cerebrum and cerebellum

* This case has been reported under another title by Dr. Elinor Ives, then resident in the neurologic service (Disseminated Areas of Necrosis in the Brain Following Intravenous Injection of Neoarsphenamine, Bull. Los Angeles Neurol. Soc. **2**: 140-143 [Sept.] 1937).

and terminal pneumonia as well as the neoarsphenamine may all have played a part in the production of this unusually brilliant pathologic picture.

In this group of cases, the terminal cerebral lesion has long been known and is not likely to be mistaken for any other.

Gross Cerebral Hemorrhage.—The occurrence of gross bleeding into the substance of the brain after administration of neoarsphenamine must be of rare occurrence. While we know of no other such case reported in the literature, other instances must certainly have occurred. Nevertheless, changes in the wall of some large anomalous vessels are always

a possibility, and under such circumstances gross bleeding might occur. It is also possible that vascular syphilis might predispose to such a lesion. The following case exemplifies the situation.

CASE 9.—A Mexican woman of 29 years gave a history of previous untoward reactions to injections of arsenicals in the form of bleeding gums, ecchymosis and blood-streaked vomitus. The day following an injection of sulfarsphenamine severe headaches developed and the patient had a "stroke" followed by vomiting of blood-stained material. A generalized purpuric eruption of the skin was found on admission to the hospital. Death occurred about twenty hours after the injection and three hours after the "stroke." Gross hemorrhage into the external capsule and left temporal lobe with destruction of the posterior limb of the internal capsule was the only cerebral lesion found at autopsy. There was no gross evidence of cerebral syphilis. Petechial hemorrhages were found beneath the epicardium and endocardium and in the pleura, the peritoneum and the mucosa of the gastro-intestinal tract.

Why in this case a single large vessel of the brain should be affected by the toxic process is unknown, but in the presence of such widespread evidence of vascular changes after treatment with sulfarsphenamine and the absence of other recognized causes, it may be presumed that the cerebral hemorrhage was an ultimate consequence of the arsenical injection.

Multiple Symmetric Foci of Hemorrhagic Necrosis.—As shown previously, this lesion seems to be a common, if not the most common, lesion after arsenical administration. It may be associated with disseminated petechial hemorrhages and possibly with gross hemorrhage as well, as the case of Black[7] seems to suggest (in this case sulfarsphenamine was also used). These foci are found in both the gray and the white matter of the brain, with special predilections for the corpus callosum, the optic thalami, the external capsule and the frontal and parieto-occipital centrums, especially the forceps minor and forceps major. The caudate nuclei, the hippocampal gyri and the brain stem are also affected. The lesions are made up of sharply circumscribed groups of small perivascular hemorrhages, whose close proximity evidently results in necrosis of the intervening tissues, at times to the extent of softening of the affected area. This necrosis may result in the complete disintegration of the affected areas, as was so well shown in case 2.

Perhaps the most striking and unusual feature of the lesion is its decided tendency to occur in symmetric positions in the two sides of the brain. While the lesions are not always identical in size or situation, this factor is so often striking as to call for special comment. Aside from the symmetric lenticular lesions in progressive lenticular degeneration and after asphyxia, there is no known counterpart of this phenomenon in the whole realm of neuropathology.

THE POSSIBLE CAUSES OF SYMMETRY IN HEMORRHAGIC NECROSIS

It has long been recognized that the essential cause of the small perivascular (ring or ball) hemorrhages which constitute the lesion in hemorrhagic encephalitis is a toxic effect on the endothelium of the small blood vessels of the brain, an effect which apparently has a predilection for the place of branching of these vessels. Since there is often no great excess of free arsenic in the brain, it is believed that this toxic effect is due to a combination of the arsenic from the broken-down molecule of the arsphenamine complex with some other substance, perhaps a protein.

Since Ehrlich [2] first postulated the etiologic factors in the causation of this condition, it has been believed that some additional factor is also present. Lack of epinephrine was considered as this other factor by Ehrlich and some others. This conclusion was made on the basis of the clinical observation that patients with impending coma after injections of arsphenamine promptly recovered after epinephrine was administered. While this observation does not necessarily prove that there was a deficiency of this drug in the circulation of blood at the time, it does suggest that dilatation of the affected blood vessels does play some part in the production of the pathologic picture.

The recognition of the occurrence of multiple symmetric foci of hemorrhagic necrosis as a part of this situation demands the consideration of other possible anatomic and physiologic concepts to account for the complete picture. The tendency for these foci of confluent petechiae to occur in certain circumscribed anatomic locations, such as the corpus callosum (including the forceps major and forceps minor as well as the body of this structure), the thalamus (chiefly its lateral nuclei), the caudate nucleus (chiefly its tail), the external capsule, the hippocampus and the basilar pons, compels one to conclude that the blood vessels in these areas, for some reason or other, are particularly sensitive to the effect of the drug. Whether this sensitiveness is due to a difference in the essential structure of their walls, in the frequency of their branching or in the number or peculiar distribution of the vessels in these particular zones is of course uncertain.

The unusual tendency for the lesion to develop in closely approximately symmetric locations in the same brain (although the location of the lesions may vary somewhat from one case to another) suggests that a physiologic factor is also to be reckoned with. The blood vessels in the anatomic regions predisposed to damage by the toxic process evidently show a simultaneous (and very likely fluctuating) sensitivity on both sides of the brain. This fluctuation of predisposition is shown by the fact that identical areas, even in commonly involved regions of the brain, are not affected in all cases.

We suggest the concept that this variability in susceptibility to vascular damage in these regions is due to changes in degree of physiologic activity of the affected vessels from time to time. This variability must of necessity consist of the degree of contractibility of these vessels at the time damage is sustained. The symmetric disposition of the lesion further suggests that there is some symmetry in the vasomotor control of the vessels in these regions. If Ehrlich's original premise about epinephrine is correct, then another step can be taken, and it can be assumed that these vessels are most sensitive to the toxic process during episodes of vasodilatation.

By assuming, then, that there is a recurrent (and probably rhythmic) alternation in constriction and dilatation of the groups of arterioles, more evident in certain parts of the brain, those vessels which are most dilated at the time of action of the toxin are most apt to be affected. The area of brain supplied by the cluster or group of vessels so altered will then be the seat of numerous confluent hemorrhages, which collectively make up the gross areas of hemorrhagic infiltration. Necrosis of the intervening tissue is a result of advanced degrees of asphyxia incident to a serious disruption of regional circulation and therefore of tissue respiration.

One final question remains to be considered. Why in some cases do these areas of symmetric necrosis develop while in others they occur only as widely spread petechial hemorrhages? On the basis of this postulate, it is to be assumed that for physiologic reasons the alternating constriction and dilatation of the vessels in or near the central or ganglionic portions of the brain is for the time being quiescent. The individual vessels throughout the brain which happen to be in a state of dilatation are alone affected by the toxin, and typical hemorrhagic encephalitis then results. A transitional situation would result, as it does in rare cases, in transitional conditions or a combination of both types of lesions.

SUMMARY AND CONCLUSIONS

This study is concerned with an unusual and hitherto unstudied lesion of the brain, which we have come to designate as multiple symmetric foci of hemorrhagic necrosis, which constitutes an integral part of the encephalitis syndrome following intoxication with neoarsphenamine.

The lesion is closely allied with pericapillary encephalorrhagia, which has often been described, in that it is composed of many perivascular (ring) hemorrhages, which in this case are grouped into circumscribed areas in contrast to their otherwise diffuse spread throughout the white matter of the brain.

The basis for this study was a series of 12 cases of encephalitis due to arsphenamine in which the cerebral lesions were observed at autopsy.

In 7 cases multiple symmetric foci of hemorrhagic necrosis were found (in 1 case, both grouped and scattered petechial hemorrhages were present); in 4 other cases, typical petechiae scattered throughout the white matter were found, while in 1 case gross hemorrhage into the brain had taken place. Any combination of these three lesions may possibly exist.

One feature of special interest was the tendency of these hemorrhagic foci to localize in regions of both the gray and the white matter of the brain. The corpus callosum, the optic thalami, the external capsule and the frontal and parieto-occipital centrums (forceps minor and forceps major) seem to be sites of special predilection.

The further tendency for the lesion to occur in symmetric areas of the brain suggests some functional vascular basis for its occurrence. The focal blood vessels supplying these areas are evidently susceptible to the toxic agent to the same degree at the same time. While the lack of epinephrine may enter into this situation, as Ehrlich originally postulated, one can be more sure that dilatation of the blood vessels (arterioles) predisposes them to involvement by the toxic process.

As in the case of disseminated petechial hemorrhages, this lesion is not necessarily fatal, as a case in which there was a rather long survival period indicates, although it must produce serious clinical residuals if at all widespread or severe.

This lesion should be considered a pathologic entity which with disseminated petechial hemorrhages and the rare gross cerebral hemorrhage (with its uncertain relation to sulfarsphenamine) constitutes one of the essential pathologic elements resulting in the clinical syndrome of postarsphenamine hemorrhagic encephalitis. The occurrence of localizing or lateralizing clinical phenomena in a clinical case should suggest the occurrence of this particular lesion.

STANDARD NOMENCLATURE OF DISEASE

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This report is partly in the nature of a book review and partly a discussion of the work of the committee which wrote the section on diseases of the skin. The third edition of the book in question is entitled "Standard Nomenclature of Disease and Standard Nomenclature of Operations." It has been completely revised and published by the American Medical Association.

The present volume is the result of many months of hard work by leaders in various fields of medicine, but the chief credit is due to the untiring efforts of the editor, Dr. Edwin P. Jordan. Before mentioning the names of those who wrote the dermatologic section of the present volume, I should like to pay tribute to the late Dr. Sigmund Pollitzer, who acted as chairman of the original committee on cutaneous diseases. Other members of the committee included Dr. H. B. Logie, Dr. Samuel M. Peck and myself. Dr. Pollitzer's scholarly attainments and interest for years in nomenclature made him an ideal man for this work, while Dr. Logie's knowledge of medicine and of the mechanics of the book made his help indispensable.

The committee in charge of writing the dermatologic section of the present volume, of which I had the honor to be chairman, consisted of five other men in New York city, Drs. George M. MacKee, Fred Wise, J. Frank Fraser, Samuel M. Peck and George M. Lewis, and two men in Chicago, Drs. S. William Becker and Maximilian E. Obermayer. The separation of the committee in distant cities made our work more difficult and caused a voluminous correspondence between the groups of members and the editor, Dr. Jordan. Some of our decisions will undoubtedly be criticized, though if those who differ with us could have been present at our meetings they would have realized the difficulties we faced. In the discussion of certain difficult problems we reversed our decisions more than once. We also obtained opinions of other dermatologists, including Drs. Oliver S. Ormsby, Fred D. Weidman, H. E. Michelson and Hamilton Montgomery.

A new feature of the volume is the list of operative procedures, which is placed at the end and occupies 159 pages. Another new feature is a "Table of Eponymic Diseases," which follows the general index. This includes diseases of dermatologic interest, which bear the names of

Bazin, Boeck, Bowen, Darier, Duhring, Fordyce, Fox, Hallopeau, Hebra, Kaposi, Majocchi, Schamberg and others.

One of the many improvements in the present volume consists of the deletion of the numerals in italics after the names of many diseases, indicating that they belonged to the list of "International Causes of Death." These numerals were confusing and of little value. Indeed, some of them were rather ridiculous, as in the case of acne vulgaris, psoriasis, pityriasis versicolor and even keratosis pilaris, which were listed as possible causes of death.

The dermatologic section does not include all diseases which are of dermatologic interest. Certain ones are listed under "Diseases of the Body as a Whole," including exanthema subitum, tularemia and pellagra. Certain diseases are listed in other sections, such as carcinoma simplex of the nipple (eponym, Paget's disease of the nipple), under diseases of the breast, glossitis of various types, under diseases of the tongue, and balanitis, under diseases of the penis. In looking for any particular item, time will usually be saved by referring to the index, unless one is thoroughly familiar with the book.

The use of English in place of Latin or Greek terms has been the editorial policy for the entire volume. It was admitted, however, that great difficulties were encountered in the case of dermatologic and ophthalmologic names. Most of the cutaneous diseases are still given their original Latin or Greek names. To change the majority would be impossible at present, and in only a few instances would English terms be acceptable. What English equivalents would, for instance, be suitable for acne, erysipelas, ichthyosis, scabies, scleroderma or zoster? One might call scabies "the itch," or even the "seven year itch," and speak of zoster as "shingles," but such terms would not be scientific or particularly dignified.

I should like to digress a moment and express my own opinion that descriptive Latin or Greek terms such as keratosis pilaris and dermatitis exfoliativa are satisfactory ones. Even fanciful names like psoriasis or pemphigus should not be scoffed at when used for diseases of unknown causation. A meaningless fanciful term is certainly better than a pathologic one which is eventually found to be incorrect. The term psorospermosis was used for a time by Darier for the disease which bears his name (even though Dr. James G. White should share the credit of having first described it independently). Needless to say, Darier retracted the aforementioned name when he found that the supposed "psorosperms" were merely dyskeratotic cells.

The use of names in modern languages other than English or of eponyms, we agreed, is undesirable. Stumbling blocks which prevented our eliminating such terms completely were perlèche, Fox-Fordyce dis-

ease and verruga peruana, for which as yet no suitable synonyms have been found. Although the word verruga is the Spanish equivalent of the Latin verruca, the eruption is not composed of warts from either the clinical or the histologic standpoint. The term *acné excoriée des jeunes filles* was suggested to the committee but was not accepted for several reasons, the chief one being that it is French.

In the dermatologic section new items have been added, some of the old ones have been deleted and the names of others have been changed. Although a liberal amount of space was allowed for this section, the committee was asked to omit extremely rare or doubtful entities, especially those of little importance. As a matter of fact, the dermatologic section alone includes four hundred and four items.

Diseases which appear for the first time include the following: alopecia hereditaria (premature and senile), berlock dermatitis, chromoblastomycosis of the skin, dermatofibroma (histiocytoma), epidermolysis bullosa acquisita, erythema elevatum diutinum, erythrocyanosis crurum, hidradenitis suppurativa, infestation with bedbug, flea, chigger or other parasite, lipid proteinosis, livedo reticularis, multiple idiopathic hemorrhagic sarcoma (eponym, Kaposi's sarcoma), papilloma of the skin, physical allergy due to heat, cold and light, prurigo mitis, pustular folliculitis, subcutaneous inflammation and atrophy due to extravasated drugs, tinea amiantacea, torulosis of the skin, xanthoma disseminatum, xanthoma diabeticorum, and xerosis of the skin.

In commenting on the list of new items it should be said that both multiple idiopathic hemorrhagic sarcoma and prurigo mitis were omitted in the previous editions by error. While the majority of the new items will probably be received without adverse criticism, it should be said that papilloma of the skin was included with some misgivings, as the members of the committee agreed that it was a rather loose and unsatisfactory term. Dr. Fraser said, "Strictly speaking, a papilloma is a new growth, not an overgrowth of papillae, but custom has made it a use to call any innocent tumor a papilloma which grows out from the surface (skin or mucous membrane) and is composed of epithelium with a stroma to carry blood vessels. The term should be retained unless a better one can be found to take its place."

We had all heard of the cases of prurigo ferox which were reported from the Viennese clinics in past years. As such cases did not occur in this country at least, we decided to use the word prurigo mitis, as distinct of course from prurigo nodularis.

The term xerosis of the skin was adopted to indicate simple dryness. It was preferred to xeroderma, as the latter was thought to be too suggestive of xeroderma pigmentosum. The committee voted against the

use of the word asteatosis to indicate dry skin, as this strictly means entire absence of grease in the skin, a condition which does not exist.

One of the most desirable changes was the deletion of pemphigus neonatorum and the substitution of the term impetigo neonatorum. We allowed the term acute septic pemphigus to remain and thought that the word septic would prevent confusion with the other types of pemphigus. We saw no reason for separating pemphigus vulgaris into acute and chronic types, as we did not know what constitutes the dividing line between them.

The term dermatitis seborrheica was adopted in place of eczema seborrhoeicum, the name given it by Unna. This was done because the new term seems to be in more common use by dermatologists and also because the disease is not a true eczema. It may be added that it is also not always seborrheic.

The name mycosis fungoides was finally adopted in place of granuloma fungoides, but only after a long discussion in which the term blastoma fungoides was considered. The fanciful name of mycosis fungoides, which was coined by Alibert, has the benefit of long usage in its favor. Furthermore, the nature of the disease is still in dispute.

The committee decided to adopt the term lupus erythematosus, although we were aware of the fact that the adjective erythematodes is more correct than erythematosus. The latter is, of course, a hybrid word, part Greek and part Latin. Again, usage was responsible for our decision. At least the majority of the committee vigorously opposed the suggestion to call the disease simply "erythematodes," as originally proposed by Jadassohn. In answer to the objection of using an adjective for a noun, it was argued that we approved of the term rosacea, which is an adjective. We did this, however, to show that rosacea had nothing to do with acne.

Folliculitis keloidalis (folliculitis cheloidalis in the second edition) is a term for which I am responsible and which takes the place of dermatitis papillaris capillitii, the name given it by Kaposi. I do not feel at all apologetic in having proposed this change. The designation of Kaposi was unnecessarily long and inaccurate and one that the average physician and even perhaps a few dermatologists could not spell or pronounce correctly. I proposed this change at a meeting of the International Committee on Nomenclature at the last International Congress, in Budapest, Hungary, where it was accepted.

The committee realized that the nomenclature of cutaneous tuberculosis is a difficult subject and were fully aware of the jumble of terms that appeared in the last edition. After studying the classifications of Montgomery, Michelson and others, we grouped the different types under the heading of tuberculosis, retaining the common terms in paren-

theses as synonyms. We were not particularly proud of this work, which represented a compromise, but then this book is essentially one of nomenclature rather than of classification.

Eczema, as might well be imagined, was a subject for long discussion. In the last edition the term eczema was followed by the adjective allergic. We assumed that the word eczema referred to the contact type, which is supposedly always allergic, though to discover the causative allergen is another story. In the new edition the word allergic was deleted, as this would have presupposed that there was a nonallergic type of eczema. The phrase "Specify allergen when known" was added. The so-called atopic eczema was agreed to be synonymous with the term neurodermatitis disseminata, and we finally compromised by calling the disease neurodermatitis disseminata with the synonym atopic eczema following it in parentheses.

The difficult question of sarcoid versus sarcoidosis was finally settled by using the term sarcoidosis, generalized, in the section on "diseases of the body as a whole" and inserting the term sarcoidosis of the skin in the cutaneous section on "Diseases of the Skin."

The term melanoma was finally adopted, after long discussion, to take the place of melanosarcoma. This action was taken because the origin of this growth is still a matter of dispute.

Alopecia areata is given a liberal amount of space, four separate items being included, which account for all possible areas which may be affected. It did not seem necessary, however, to include the term ophiasis.

The term ulcus hypostaticum was substituted for ulcus varicosum in spite of the long usage of the latter. This action was taken because in some cases of hypostatic ulcer it is not possible to demonstrate the presence of varicose veins.

Multiple benign cystic epithelioma was considered to be a more desirable term than epithelioma adenoides cysticum, the two being, of course, synonymous. The first mentioned, we thought, is more commonly used and contains the word benign, which shows that the growth is not a form of cancer.

The word acarodermatitis without accompanying adjective appeared in the last edition with a numeral indicating simply a disease due to a mite. As this was indefinite (it would have included scabies), we substituted acarodermatitis urticarioides (grain itch).

Other changes in nomenclature include the substitution of keratosis for keratoderma, of lipomatosus for lipomatodes and of coccidioidomycosis for granuloma coccidioidale. The ending -hidrosis instead of -idrosis was adopted for abnormal conditions of sweating, as the Greek word from which the terms are derived contains the aspirate. We were

not insistent on either method of spelling as long as all the words in question were uniformly spelled. The Latin word vulnus, used in the last edition as a synonym for wound, was omitted. The word is rarely used, and some physicians perhaps do not know its meaning.

From the etiologic standpoint it was thought best to shift several diseases from one group to another. Both granuloma annulare and lichen nitidus were listed in the last edition as manifestations of tuberculosis. They now appear in the group of diseases of unknown cause. Scleroderma had previously been given an etiologic number indicating that it was due to an endocrine disturbance. As this is surmised rather than proved, we also classed generalized progressive scleroderma and localized scleroderma (morphea) among the diseases of unknown causation.

The use of the term pompholyx merits a brief discussion. In the last edition this disease was classed as a fungous infection due to the epidermophyton. This meant that it was simply ringworm and that the use of the word pompholyx was ill advised. While it is generally agreed that in the large majority of cases the disease formerly called pompholyx is actually ringworm, some think that in a small proportion of cases there is no such causation, and we therefore included this time-honored disease among those of unknown cause. It should also be noted that the word dyshidrosis was not included as a synonym, as Robinson showed years ago that the disease has no relationship to the sweat glands. This was another instance in which a fanciful term was better than a pathologic one which was eventually proved to be incorrect.

In view of what has been previously said about the desirability of conserving space, we thought it proper to delete the following diseases: acladiosis, trichonodosis, trichonocardiosis and melanoderma.

After considerable discussion it was decided not to include the following diseases: erythroderma desquamativum, or Leiner's disease (we were doubtful whether this should be considered a clinical entity; if so, it is an extremely rare one); keratoderma climacterium, lichen striatus (the disease described by Pels and Goodman and by Hailey and Hailey and others, the status of which is still uncertain) and lupus pernio. We spent an inordinate amount of time in trying to decide whether there was such an entity as lupus pernio and if so the proper number to give it from the etiologic standpoint. No one seemed to be sure about its clinical appearance or cause, and we decided to omit this item and leave it to the tender mercies of our successors on the committee for revision of the next edition.

Pustular folliculitis (other than ordinary sycosis vulgaris) is a well recognized disease, and one would have thought that a suitable place

could have been found for it. For some unknown reason it proved to be a difficult disease to classify, and it was eventually relegated to the small group at the end of the cutaneous disease section. We were not particularly proud of this action.

Synovial cyst or synovial lesion of the skin was unfortunately omitted by error. The clinical appearance of the disease was known to all of us, but we found considerable difficulty in deciding on its exact nature and cause. We were under the impression that it was to have been included in some other section.

It is hardly necessary to say that the new edition of the Standard Nomenclature of Disease should be in the library of every dermatologist, particularly of every one who contributes to the literature by writing original articles or by presenting cases at meetings of dermatologic societies. Dermatologists, and all specialists in fact, are duty bound to follow the Standard Nomenclature of Diseases, as the leading medical schools, hospitals and national medical societies have officially adopted it. It should not be difficult to note the changes that have been made, though we realize the trouble and expense for authors of textbooks when writing new editions.

In conclusion, it is realized that nomenclature of disease, like language, is in a constant state of flux and that many more changes will doubtless be made in the next revision. It is requested that all suggestions for future changes be sent to the editor, Dr. Edwin P. Jordan, 535 North Dearborn Street, Chicago.

DERMATITIS STRIATA PRATENSIS BULLOSA (GRASS OR MEADOW DERMATITIS)

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The only cases of grass, or meadow, dermatitis observed in the United States were reported by Corson [1] and Robinson.[1a] Corson observed a weed killer, in the summer of 1933, who exposed himself to the sun and acquired linear vesicles in stripes 6 to 50 mm. in length, which healed with pigmentation. Robinson's patient, a girl aged 15, had a bright red bullous itching eruption on the backs of the hands and forearms, which left dark brown stripes when it healed. The eruption appeared twenty-four hours after she had mowed a lawn.

In Europe many cases have been reported, from nearly all countries, since my first description of the disease in 1926,[2] when I reported 40 cases. About the clinical and histologic entity there is no longer any doubt. All authorities agree that it is a new disease belonging to the dermatitis group. There is, however, no unanimity about the cause. Various names have been given to the disease, for example, *streifenförmige Wiesendermatitis, Freibadermatitis, Badedermatitis, Wiesendermatitis, dermatite bulleuse des prés, maladie d'Oppenheim* and grass and meadow dermatitis.[2a]

I have observed 4 cases in a dispensary in Chicago, 1 in 1939, another in 1940 and 2 in 1941.

REPORT OF CASES

CASE 1.—K. B., a girl aged 12 years, was examined on Sept. 5, 1939. She stated that on August 30 she had been picking flowers in the sunshine in a meadow near the sand dunes south of Chicago. Twenty-four hours later she noticed an eruption with considerable itching. Examination showed that from the middle of the thighs to the ankles there were many stripes of blisters and blebs, sharply limited by the margin of the shoes. They varied in length up to 10 cm.; they crossed one another and were linear, with red borders not sharply marginated. The individual blisters varied in size from that of a pinhead to that of a pea. In

1. Corson, E. F.: Meadow Grass Dermatitis (Dermatitis Bullosa Striata Pratensis), Arch. Dermat. & Syph. **32**:616 (Oct.) 1935.

1a. Robinson, S. S.: Grass Dermatitis, California & West. Med. **47**:252, 1937.

2. Oppenheim, M.: Discussion at the meeting of the Viennese Dermatological Society, Oct. 20, 1926.

2a. Oppenheim, M.: Dermatite bulleuse striee, consécutive aux bains de soleil dans les prés (Dermatitis bullosa striata pratensis), Ann. de dermat. et syph. **3**:1, 1932.

some areas brownish crusts appeared as stripes. Some of the blisters were grouped, and a few red stripelike areas without blisters were present between the crisscross streaks. Five per cent boric acid ointment did not stop the itching; compresses of solution of lead acetate brought improvement, and paste of zinc oxide cleared up the lesions. On September 18 the skin was normal except for striped pigmentations.

CASE 2.—H. B., a man aged 30, a medical student, was seen on Aug. 26, 1940. On August 15 he had pulled a car out of a ditch covered with tall stiff wet grass and containing rain water. He worked about an hour with his sleeves rolled up to the middle of the upper part of his arms and his shirt open over his breast. There was no sunshine. The first itching appeared from thirty-six to forty-eight hours later. Examination eleven days after the exposure showed crisscross red stripes, more moderate than those in case 1, on both forearms and extending halfway up the upper part of his arms. The stripes were from 3 to 5 mm. wide and covered with crusts and scales; on some stripes there were nodules and papules and between them irregular marginated red areas. On the exposed area of the breast the changes were similar but fewer. There was extreme itching. The patient had treated himself with a lead acetate lotion, with alcohol and finally with ammoniated mercury ointment.

CASE 3.—R. R., a boy aged 12 years, was examined at the dispensary on June 11, 1941. Four days before, at about 7 p. m., he had picked some roses from shrubs (chrysam ramblers) 5 to 6 feet (152 to 183 cm.) tall. It had rained in the forenoon, and the whole day had been without sunshine. On the right forearm and on part of the right arm were several blisters, varying in size from that of a hemp seed to that of a pea, arranged in stripes 5 cm. long and 1 to 2 mm. wide, some of them crossing one another. On the dorsa of the hands were small areas of pigmentation in stripes. Within eight days all the blistering stripes had changed to areas of deep brown pigmentation, which were still present four months later.

CASE 4.—Mrs. D. W. B. was seen on Sept. 3, 1941. She had taken a walk with her husband at night, and they had stretched out on the grass. Twenty-four hours later she experienced itching and noticed a rash on the skin. Examination showed crisscross stripes of blisters 5 cm. long and 0.5 cm. wide on both forearms. They were accompanied by red areas 3 mm. wide, sharply differentiated from the healthy surrounding skin. A few similar efflorescences were apparent on the trunk. She was treated with boric acid ointment. Later, crisscross brown-pigmented stripes appeared where the blisters had been. On October 28, almost two months after the onset, the pigmented stripes were still present. In this case, as in cases 2 and 3, the dermatitis was acquired without exposure to the sun.

Three to four days after the appearance of the eruption her husband showed the same sort of dermatitis.

In these 4 cases there were the classic clinical features of the disease: contact with plants, mainly grass; an incubation period of twenty-four to forty-eight hours; after the itching the appearance exactly on the areas where contact took place of blisters and blebs in long or short stripes and bordered by red halos; clearing in a few days, and healing with pigmented stripes. Grass dermatitis is limited to the areas of contact with grass or the margins of leaves and has never been observed

to spread, an important point in differentiation from poison ivy and other phytogenic dermatitis.

In the first case, there was exposure to sunshine. In the second, contact was at 7 p. m., after rain. In the third, exposure took place in the afternoon under a cloudy sky; there had been rain in the forenoon. In the fourth, exposure was at night. These facts are important, because I, like most authorities, regard sensitiveness to light as an important if not necessary etiologic factor.

ETIOLOGY

The cause of this well characterized disease, which develops usually after sun baths in the grass at the borders of rivers, ponds and swimming pools, is not yet completely clear. Different theories have been advanced. My first impression was that mites or other parasites are causative, as in harvesters' itch and grocers' itch. But it was impossible to retain this theory, because of the clinical aspect. Mites cause follicular dermatitis without crisscross stripes, and the eruption appears on the face and all other parts of the body. Mite dermatitis has a short incubation period, often appearing immediately after contact, and does not leave pigmentation when it subsides. Under the microscope the proboscis of the mite (Leptus autumnalis, a trombidium, in harvesters' itch) may be seen in the skin.

Examination of the grass and the ground where the disease was contracted in my first 40 cases and attempts to produce the disease experimentally by lying in the same places (for instance, the taking of a sun bath at Ottakring, near the Wilhelminen Hospital, of Vienna) were noncontributory. Fessler and I [3] then advanced the theory that the silicates present in shore plants were the cause. This was based on cutaneous tests with silicates and represented the first effort to put the disease on a general basis. Cutaneous tests with various plants and various extracts were carried out by many investigators. No plant or group of plants could be established as the cause, for too many plants produced reactions. One group of plants, however, containing essential oils and blistering juices seemed to cause reactions most frequently. Touton [4] accepted them as the cause. Fortig [5] reported negative results

3. Oppenheim, M., and Fessler, A.: (*a*) Ueber eine streifenförmige bullöse Dermatitis (Freibad- und Wiesendermatitis), Dermat. Wchnschr. **86**:183, 1928; (*b*) Die bullöse Freibad- und Wiesendermatitis, Dermat. Ztschr. **55**:191, 1929; (*c*) Die streifenförmige bullöse Freibad- und Wiesendermatitis (Dermatitis bullosa striata pratensis), Med. Klin. **28**:820, 1932.

4. Touton, K.: Hauterkrankungen der phanerogamen Pflanzen, in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1932, vol. 4, pt. 1. Besonderheiten der Toxicodermia phytogenes, Dermat. Ztschr. **53**:636, 1928.

5. Fortig, H.: Ueber strichförmige bullöse Dermatitis durch Uferpflanzen, Dermat. Wchnschr. **86**:538, 1928.

from intradermal injections of the contents of bullae. Hartmann and Briel made cutaneous tests with different green plants, with negative results. Philadelphy [6] produced a bullous dermatitis with an alcoholic extract of Achillea millefolium (Schafgarbe). Siemens [7] made cutaneous tests with shore plants, without result. Gans [8] applied a cataplasm of green shore plants and of their extract to the skin of a patient whose dermatitis had healed. After twenty-four hours an erythema with blebs and blisters appeared, and pigmentation lasted three months. With other patients his experiments gave negative results.

Later a new theory was suggested: that shore plants cause local sensitization to light. The first experimenter along this line was Kitchevatz,[9] who used chlorophyll made from spinach and commercial chlorophyll solution. The skin was rubbed and the chlorophyll deposit allowed to remain for an hour. Later the skin was exposed to radiation from a quartz lamp. After sixteen hours chlorophyll appeared to sensitize the roughened skin to ultraviolet rays. Similar experiments on intact epidermis and on lesions, however, did not confirm the result. In a second series of experiments the author found that the red rays alone produced the effect. He concluded that the dermatitis was produced by chlorophyll and light and that the difference in frequency of the disease in various years corresponded with the intensity of the sun's rays, which depends on sun spots.

Germaine Milian,[10] who wrote a monograph on the *maladie d'Oppenheim,* made a number of experiments with 20 per cent chlorophyll lotion and water extracts of plants which usually caused the dermatitis. After application of the lotion and of the plant extracts she applied radiation of all colors of the spectrum, using ultraviolet rays as a control. Reading the results after twenty-four hours, she was unable to confirm the results of Kitchevatz. (I made experiments with chlorophyll in 1932 and 1933, before Kitchevatz made his, and my results were negative.)

In 1936 I [11] observed many cases and made many cutaneous tests with water, alcohol and ether extracts of different plants and grasses

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6. Philadelphy, A.: Zur Aetiologie der Wiesenpflanzen- (Bade-) Dermatitis, Dermat. Wchnschr. **92**:713, 1931.

7. Siemens, H. W.: Ueber eine systematisierte bullöse Dermatitis durch Uferpflanzen, Dermat. Wchnschr. **85**:1577, 1927.

8. Gans, O.: Ueber die Dermatitis durch Achillea millefolium. Ein Beitrag zur Aetiologie der beim Freibaden entstehenden Hautausschläge, Deutsche med. Wchnschr. **55**:1213, 1929.

9. Kitchevatz, M.: Mécanisme de la photosensibilisation de la peau par la chlorophylle, Compt. rend. Soc. de biol. **116**:675, 1934.

10. Milian, G.: Dermatite des prés, Rev. franç. de dermat. et de vénéréol. **12**: 503, 1936.

11. Oppenheim, M.: Beitrag zur Aetiologie der Dermatitis striata pratensis bullosa (streifenförmige Wiesendermatitis), Wien. med. Wchnschr. **46**:1276, 1936.

on normal, roughened and scarified skin. The results were inconclusive. I found many analogies between the disease and so-called berlock dermatitis (Freund), caused by oil of bergamot, an essential oil. In berlock dermatitis incubation takes from twenty-four to forty-eight hours; the erythema is sharply limited to the areas exposed to the oil and to the sun's rays, and sometimes vesicular rashes appear, with itching and pigmentation of long duration. Pinene, a bicyclic carbohydrate ($C_{10}H_{16}$), a terpene, is the predominant part of the essential oil, and cutaneous tests with a saturated aqueous emulsion of this substance on normal, roughened and scarified skin produced after twenty-four hours erythema, papules and sometimes blisters, which healed with pigmentation. The reactions on skin roughed with sandpaper were the most distinct. I did not make experiments involving exposure to light.

Four publications based on the theory of light sensitization have appeared recently. Hirschberger and Fuchs,[12] experimenting with the parsnip, Pastinaea sativa, an umbellifer, a common meadow plant, concluded that dermatitis occurs only when a certain substance contained in the plant, with water, ether or alcohol as a vehicle, enters the epidermis and is exposed to the rays of the sun or to ultraviolet radiation. The substance must be a light sensitizer or catalyst with a photodynamic effect. Kuske,[13] in three publications, went a step further. In his first paper he stated that the disease is a true toxicoderma caused by Ranunculaceae (Hahnenfuss), a pure effect of cauterization. In his other two papers he reported producing the dermatitis with extracts of fig, parsnip, Heracleum, Peucedanum, Angelica and Ruta. In all cases he applied the sap of the plant without roughening or scarifying the skin and afterward exposed the areas to the sun's rays. All the plants used contain furocoumarin, which acts as a photocatalyst. Kuske isolated bergaptene and oxypeucedanin and made lotions of these furocoumarins—a 33 per cent solution in 3 parts alcohol and 1 part toluene. By smearing these on the skin and exposing the areas to the sun's rays he produced a bullous dermatitis. He expressed the opinion that in some cases the disease is a pure toxicoderma, while in others photosensitizers play the deciding role.

Jensen and Hansen,[14] of the Finsen Institute in Copenhagen, Denmark, expressed the belief that the juice of the green parts of the parsnip

12. Hirschberger, A., and Fuchs, H.: Ueber die Ursache und die Voraussetzungen zur Entstehung der Wiesendermatitis, insbesondere über die durch Pastinak hervorgerufene Hautenzündung, München. med. Wchnschr. **83**:1965, 1936.

13. Kuske, H.: Untersuchungen über die Aetiologie und Pathogenese der Wiesenpflanzendermatitis, Schweiz. med. Wchnschr. **67**:117, 1937.

14. Jensen, T., and Hansen, K. G.: Active Spectral Range for Phytogenic Photodermatosis Produced by Pastinaca Sativa (Dermatitis Bullosa Striata Pratensis, Oppenheim), Nord. med. (Hospitalstid.) **3**:2314, 1939.

on skin after exposure to sunlight produces the clinical picture of dermatitis striata pratensis bullosa and that the wave section from 320 to 360 millimicrons in the ultraviolet band of the spectrum is the active part, the degree of the effect depending on the energy radiated. This was demonstrated by employing graduated doses of radiation.

Behcet, Ottenstein, Lion and Dessauer [15] found that in the fig dermatitis, which Kitchevatz [16] studied in 1934 and regarded as an exogenous percutaneous photosensitization by extract of Ficus carica, ferments, oxidants and peroxidants acting as tyrosinases and peroxidases, played an activating but not specific role. In a second paper they reported that fig dermatitis is independent of the effect of light and that lactase is the immediate stimulating substance. Allergic disposition is important too.

The foregoing are the most important contributions to the literature on the cause of dermatitis striata pratensis bullosa. The accepted view today is that in some cases the disease is a pure dermatitis propria (Kuske called this kind of dermatitis a toxicoderma, an inaccurate expression, in my opinion, since I consider toxicoderma the same as dermatitis venenata due to idiosyncrasy, whereas dermatitis propria sensu strictiori is caused by such a stimulus as mustard or cantharides plaster), and that in the majority of cases it is what is called a photoactinic cutaneous disease. The chlorophyll is not a local light-sensitizing factor, nor is the fig extract.

The theory that insects are causative, a theory I held at first and later abandoned, has been renewed by Baccaredda. Hirschberger, Kuske and I believe that in a few cases some substance in certain plants, such as Ranunculaceae, without hypersensitiveness causes an acute bullous dermatitis confined strictly to the point of contact (blistering effects). The ruling theory now is that a substance in certain plants, perhaps chlorophyll (Kitchevatz), furocoumarin (Kuske) or flavone (Hirschberger), produces a local sensitization to light. The same opinion has been advanced by Jensen and Hansen. Jausion, Jacowski and Kouchner [17] attributed the disease to light sensitization through an endogenous catalyst, such as hematoporphyrin, and an exogenous thermodynamic substance, such as chlorophyll, as well as to a plant substance, such as

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15. Behcet, H.; Ottenstein, B.; Lion, K., and Dessauer, F.: Les dermatitis des figues; recherches des influences chimiques, physiques et allergiques pouvant provoquer la dermatite des figues, Ann. de dermat. et syph. **10**:32 and 125, 1939.

16. Kitchevatz, M.: Etiologie et pathogénèse de la dermatite des figues, Bull. Soc. franç. de dermat. et syph. **41**:1751, 1934.

17. Jausion, Jacowski and Kouchner: Nouvelles recherches sur la dermatite bulleuse des prés, Bull. Soc. franç. de dermat. et syph. **44**:1756, 1937.

mustard essence, which causes blisters. In question is the necessity of the presence of histamine. Milian expressed belief in the effect of the plant alone.

DIFFERENTIAL DIAGNOSIS

The fact that this disease, which is frequently observed in all countries of Europe, has been described only twice in the United States is due largely to failure of recognition. The disease is confused with other types of plant dermatitis, particularly poison ivy dermatitis, which is frequent here. Differential diagnosis, however, is easy, the same points of difference being present as in the case of primrose dermatitis in Europe (poison ivy dermatitis is unknown in Austria). Poison ivy dermatitis begins at the place of contact, often immediately; grass dermatitis, after an incubation period of twenty-four to forty-eight hours. The former disease is not limited to the areas of contact; redness, edema and bullous eruptions spread over the entire body. The latter disease is sharply limited to the areas of cutting by the grass or by the margins of leaves, and efflorescences are never observed in adjacent skin. Poison ivy dermatitis is often a serious disease, healing sometimes only after weeks. It does not usually appear in sharply limited crisscross stripes, nor does it leave pigmentation after healing. Dermatitis striata pratensis bullosa subsides with characteristic deep pigmented strips of long duration. Poison ivy dermatitis is provoked by a short, sometimes momentary, contact; grass dermatitis needs long and intense exposure, such as that occasioned by lying on grass for hours. Cutaneous tests in cases of poison ivy dermatitis always produce reactions of varying positivity and are monovalent; in cases of grass dermatitis cutaneous tests with the various plants produce inconstant results and are polyvalent. The former disease is caused by definite, short contact with poison ivy, often accidental. In the majority of cases of the latter disease the patient has lain in grass after bathing in a lake, river or pool in the sunshine. Immunization to the former seems to be possible. For the latter it is impossible, but pigmented and covered areas of the skin are not involved, while these too are affected by poison ivy. Lichenified and pruritic areas result from poison ivy dermatitis, never after grass dermatitis (Thelmire). (It seems to me important that Europeans lie in grass without blankets after bathing, while Americans do not.)

Other vesicular and bullous cutaneous diseases are so well characterized that their differential diagnosis need not be considered. Herpes zoster, herpes simplex, pemphigus vulgaris, hydroa vacciniforme and erythema multiforme exudativum vesiculosum can be distinguished easily. The same holds true for cutaneous reactions to war gases, in which crisscross stripes of vesicles and blebs are never present.

One point seems to be important: that the number of cases observed varies from year to year. Figure 1 shows the number of cases observed by me from 1926 to 1936 in the dermatologic department of the Wilhelminen Hospital, in Vienna. At the top of the curve is the figure for 1926, 40 cases. The explanation for this peak may be found in the opening of and the high attendance at the Ottakringer Strandbad next to the Wilhelminen Hospital. However, in the following year only 14 cases were observed, and in the three succeeding years only 2, 6 and 1 respectively. The number increased in 1931 to 8, in 1932 to 23 and in 1936 to 28. It is impossible to state whether this was due to climatic conditions, to the degree of humidity, to the water level of the Danube, to differences in the essential oil, pinene and furocoumarin content in

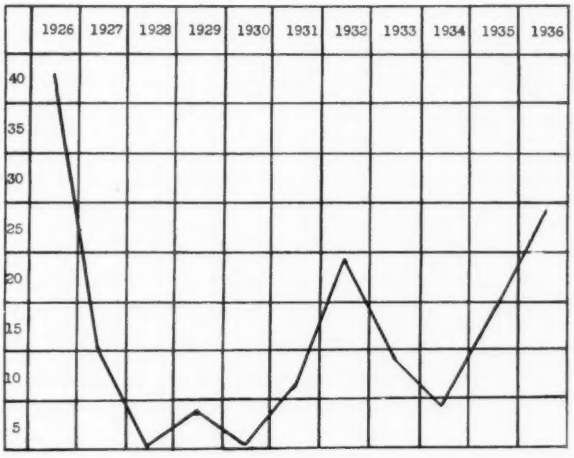

Fig. 1.—Number of cases of dermatitis striata pratensis bullosa observed in the department of cutaneous and venereal diseases of the Wilhelminen Hospital, Vienna, from 1926 to 1936.

plants or to the intensity of the sun's rays (frequency of sun spots), as Kitchevatz has suggested.

I have performed patch tests in many cases with various plants, leaves and blossoms in water, alcohol and ether extracts and with chlorophyll on normal, roughened and scarified skin with and without exposure to sunlight and to ultraviolet rays and on pigmented and non-pigmented skin.

One patient, L. I., admitted to the hospital on June 27, stated that he had been lying in a meadow next to the border of the Danube in the forenoon. That evening a rash appeared, and it became worse in the next few days. Examination showed the classic picture of dermatitis striata pratensis bullosa (fig. 2). Patch tests were made

on intact, roughened and scarified skin with pinene and control tests with water. The tests were made simultaneously on pigmented and nonpigmented skin. All the tests on pigmented skin gave negative results, corresponding with the clinical picture. The tests on nonpigmented skin elicited positive reactions of varying degrees, the strongest after twenty-four hours being on sandpaper-roughened skin.

It is not, however, only the mechanical lesions produced by the margins of grass and leaves and the roughening of the skin by the harsh surfaces and blistering juice of certain plants that play parts in the

Fig. 2.—Typical eruption caused by lying on the grass in the sunshine after bathing.

origin of the disease. Pressure from lying in the meadows and the inhibiting of vaporization of essential oils also play roles. In the many cases I have observed the most frequent sites for the eruption were the areas which had been subjected to pressure: the back and the buttocks after lying on the back; the extensor surfaces of the arms and the outer sides of the thighs after lying on the side, and the breast, abdomen and anterior surfaces of the thighs after lying on the abdomen.

An observation I made recently confirms the importance of pressure. Blood for a Wassermann test was taken from both cubital veins of a

child. The skin was cleansed with purified petroleum benzine, a carbohydrate closely related to pinene. The child bent the left elbow, pressing the saturated gauze; the right arm was held extended after being cleansed. The skin of the flexor surface of the left elbow became red and blistered after a short time; the skin of the right elbow showed no change. I made a patch test with purified petroleum benzine on my own skin and produced blisters and erythema, because the evaporation of the substance was inhibited by the rubber paper and the fixing plaster caused a certain pressure. Pigmentation resulted in both cases.

SUMMARY

The origin of dermatitis striata pratensis bullosa (grass dermatitis) is, in spite of all investigations, not yet clear. Cutting of the skin by the margins of grass, plants or leaves is necessary. In certain cases there is hypersensitiveness; in others a blistering juice, like that of Ranunculaceae, may produce the eruption in the absence of hypersensitiveness; in still others an essential oil, such as pinene, of plants is the causative agent, and in the majority of cases a photosensitizer in plants is a predisposing factor. Sunshine, perspiration, pressure, heat and humidity are contributory but not essential. Covered areas of skin, where no contact with plants takes place, are not involved; previously pigmented areas are well protected. Areas of vitiligo are very much involved. Incubation takes from twenty-four to forty-eight hours. The clinical picture consists of crisscross stripes of vesicles and bullae. Itching is intense, and healing usually occurs within a week. Pigmented stripes represent the final stage, which lasts up to six months. Therapy consists of application of 5 per cent boric acid ointment. Up to now only 2 cases of this disease, frequently observed in Europe, have been reported in the United States. It is to be expected that from now on more cases will be recognized here.

NOTE.—After this manuscript was completed an interesting article by Wiley M. Sams appeared in the ARCHIVES.[18] Sams found that extracts of the Persian lime (Citrus aurantifolia var. Swingle) made with ether, acetone and alcohol when embrocated in the skin after exposure to intense sunlight for an hour will cause the dermatitis. The reaction was stronger with the ether than with the acetone extract; the alcohol extract had less effect, and the aqueous extract had almost none. The dermatitis healed with pigmentation. He reported 11 cases. He concluded that in lime extract there is a light sensitizer (as in bergamot

18. Sams, W. M.: Photodynamic Action of Lime Oil (Citrus Aurantifolia), Arch. Dermat. & Syph. **44**:571 (Oct.) 1941.

oil) which causes a photodermatitis. He found that rays of wavelengths between 3,100 and 3,700 angstrom units are the most effective in causing the dermatitis with subsequent pigmentation.

In the discussion of Sams's paper Peck [19] mentioned that in an article of his he had demonstrated that hyperpigmentation of the skin can be produced by certain irritants without the aid of sunlight. Cantharides plaster, for example, produces vesiculation in total darkness. This tallies with the observation that in 3 of my 4 cases dermatitis striata pratensis bullosa was acquired in the absence of sunlight, in the last case at night.

914 Ainslie Avenue.

19. Peck, S. M., in discussion on Sams.[18]

Clinical Notes

A CASE OF LEPROSY OF SIXTY-ONE YEARS' DURATION

HOWARD FOX, M.D., NEW YORK

On a visit to Bergen, Norway, in 1903, I had the honor of meeting Dr. Armauer Hansen, who showed me a patient who had suffered from leprosy for forty years. He seemed rather proud of the long duration of the disease in this patient. In January 1931 I visited the Leper Home in Spanish Town, Jamaica, British West Indies, for the purpose of obtaining photographs of patients with the neural type of leprosy. To my surprise, I saw an inmate (a woman) who had suffered from leprosy for fifty-one years. In August 1941 she was still living and comparatively well. As the patient had been admitted to the Leper Home on March 1, 1881, there was no doubt about her having had leprosy for at least sixty years. The records of the institution stated that before admission she had shown signs of leprosy for "one year plus," and therefore in all probability she had had the disease for more than sixty-one years.

The patient, Jane A., a Negress, was 8 years old on admission to the Leper Home. When seen by me in January 1931, she presented moderately severe changes of the pure neural type. There were corneal opacities which prevented reading but allowed her to take care of herself and walk about the hospital grounds. There was a partial paralysis of the orbicularis palpebrarum muscle but no other facial paralysis. Dystrophic changes affected the hands and feet. The fingers of the right hand had almost disappeared, though the thumb still remained. The left hand showed a short stump in place of the thumb, and the other digits of this hand though partially ankylosed were still useful. The toes were all missing. The hair was rather gray. As the patient suffered from moderate senile dementia, it was difficult to take her photograph.

A letter received last fall (dated Aug. 13, 1941) from the sister of charity in charge of the institution said the patient "is comparatively well. She gets about with difficulty but manages to go to chapel every Sunday."

It is hardly necessary to add that in this case of neural leprosy the disease was arrested and the patient had been fit for parole for many years. She was kept in the leper home simply because she had no relatives or friends to take care of her.

At the time of my visit to Spanish Town, I saw a patient (S. N., a woman) who was said to have had leprosy for forty-five years. I do not know whether she is still living. Another patient, a man, J. A., had been an inmate of the leper home for thirty-one years, with a history of having had the disease four years before admission. He is still living, though his hands are badly mutilated. He has had the disease in all probability for forty-six years.

140 East Fifty-Fourth Street.

Neural leprosy (arrested) of sixty-one years' duration.

Correspondence

COURSE IN OCCUPATIONAL DERMATOSES BY DR. LOUIS SCHWARTZ

To the Editor:—On July 27, 1942 an epochal event in industrial medicine and dermatology took place. At the National Institute of Health, Bethesda, Md., twenty men from various parts of the United States were gathered together to take the first intensive course in occupational dermatoses ever given in this country. The group was there in response to the idea and plan of Dr. Louis Schwartz, Chief of Dermatoses Investigation Section, Division of Industrial Hygiene, United States Public Health Service. There was a fairly representative cross section of dermatologists, not only geographically but from the standpoint of age and experience.

At 10 o'clock in the morning Dr. Schwartz called the class to order and welcomed us. We were then addressed by Assistant Surgeon General Warren F. Draper and Dr. James G. Townsend, Director of the Division of Industrial Hygiene. Later Surgeon General Thomas Parran and Dr. Rolla E. Dyer, Chief of the National Institute of Health, addressed us.

From then on for six days, four hours each day, Dr. Schwartz kept us absorbed. His vast knowledge of the subject, along with his untiring enthusiasm and patience, kept us interested and stimulated, and there was not a dull minute during the entire week. Dr. Schwartz talked without notes but used lantern slides to illustrate everything he said.

For the second week there were tours of inspection through various types of factories, such as those manufacturing airplanes, explosives, chemicals and machinery and refining oil. The following plants were visited and inspected: Glenn L. Martin (Airplane), Baltimore; Fairchild Aircraft, Hagerstown, Md.; M. P. Moller (Airplane), Hagerstown, Md.; Triumph Explosives, Elkton, Md.; Standard Oil Company, Bayonne, N. J.; Calco Chemicals Company, Bound Brook, N. J.; Picatinny Arsenal, Dover, N. J., and Hyatt Roller Bearing Company (Division of General Motors, Inc.), Harrison, N. J.

In each one of these plants the process of manufacture was shown and explained to us and the workers were seen at their jobs. In conjunction, a "safety man" pointed out the general hazards of the particular occupations and methods of prevention. While Dr. Schwartz demonstrated the dermatoses occurring in these various industries we were allowed to inspect the men at work and actually see what caused the dermatoses. At the same time methods of prevention were discussed and we were able to see them in actual use and judge of their value and practicability. We realized how important it is for the dermatologist to have a technical knowledge of manufacturing processes in order to take proper care of occupational dermatoses. All in all, it was a thrilling experience. To see an airplane built and an explosive shell made, step by step, was a revelation. We saw the part industry was playing in the war effort, and we were proud of

American labor. It was stimulating to see women working alongside the men and doing a good job. If the rest of the people at home equal the effort of labor and industry, our country cannot lose.

As the last morning's tour of inspection came to a close there was a feeling of regret among the entire group. At luncheon Dr. Peck, on behalf of the group, presented a beautiful wrist watch to our host, Dr. Schwartz, as a token of our esteem. Dr. Ketron and Dr. Becker voiced the sentiments of all the men when they said they had spent the most educational and stimulating weeks in their medical experience.

JOSEPH L. MORSE, M.D., New York.

News and Comment

CONFERENCE ON VENEREAL DISEASE CONTROL NEEDS IN WARTIME

Venereal disease and America's war effort will be discussed by high-ranking medical officers of the War Department and the Navy Department, prominent physicians and health officers and others at a conference in Hot Springs National Park, Ark., Oct. 21 to 24, 1942. Headquarters will be at the Arlington Hotel.

The conference will be held under the auspices of the United States Public Health Service in conjunction with the Eighth Annual Meeting of the American Neisserian Medical Society. Surgeon General Thomas Parran will preside. State and local health officers, venereal disease control officers, practicing physicians and all others engaged in venereal disease control activities are urged to attend.

Subjects for discussion will include venereal disease control measures influencing the war effort, epidemiology of syphilis and gonorrhea–1942, wartime venereal disease control education, research influencing the wartime venereal disease control program and technics of venereal disease education.

Governmental, professional and health organizations to be represented at the conference include: the War Department, the Navy Department, the Social Protection Section of the Office of Defense Health and Welfare Services, the American Medical Association, the American Neisserian Medical Society, the American Social Hygiene Association, state and local health departments and the United States Public Health Service.

HANDBOOK FOR PHYSICIANS ON INDUSTRIAL HEALTH AND MEDICINE IN WAR INDUSTRIES

A manual on "Industrial Hygiene and Medical Service in War Industries" is being prepared by the Division of Industrial Hygiene of the National Institute of Health, on recommendation of the Committee on Industrial Medicine of the National Research Council. It is being prepared under the direction of the full time and consultant professional staff of the Division and under the general editorship of Dr. William M. Gafafer, Chief of the Statistical Unit, and will contain about three hundred pages. Subjects for discussion will include: toxicity and potential dangers of organic and inorganic substances in the war industries; occupational cutaneous diseases in war industries; engineering control; industrial medical services; nursing in industry; dental services; fatigue; women in industry; medical control of respiratory diseases; nutrition in war industries; available governmental industrial hygiene services, and integration of plant and community emergency medical services. The publication is intended for wide distribution among industrial physicians and members of the medical profession in general.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

INFLUENCE OF ACUTE INFECTION ON THE PLASMA LIPIDS AND THE COURSE OF ECZEMA. ALBERT V. STOESSER, J. Allergy **13**:248 (March) 1942.

On the basis of previous reports that the level of unsaturated fatty acids of the serum is reduced in infants with eczema and that this level is further reduced by acute respiratory disease, the author subjected 9 infants with eczema to periods of careful observation in a hospital. During these periods each infant had an attack of an acute disease. The cutaneous changes were watched closely, and periodic determinations of the plasma lipids were made.

For a short period accompanying the onset of the acute infections there was an improvement in the eruption, but this was followed by a rapid aggravation of the eczema. The height of the infection usually marked the peak of the flare-up in the condition of the skin, and this was also the time when the degree of unsaturation of the serum fatty acids was lowest. During convalescence there was another improvement in the eruption, which corresponded to the gradual return of the unsaturated fatty acids to higher levels.

Although the results of the investigation seem to indicate that there is an important relationship between lipid metabolism, acute infections and infantile eczema, the author does not draw definite conclusions and suggests further study along these lines.

PASSIVE TRANSFER IN LIGHT URTICARIA: PATHOMECHANISM OF PHYSICAL ALLERGY. E. RAJKA, J. Allergy **13**:327 (May) 1942.

The author reports a case of light urticaria of eighteen years' duration in a 44 year old shoemaker. Swelling and redness appeared on uncovered parts of the body during summer and winter on exposure to sunlight or snow. Associated symptoms were malaise and dizziness.

Investigation revealed that the entire cutaneous surface shared in the hypersensitivity. The patient most readily reacted to colorless mixed radiation from the sun, also diffuse sunlight or radiation from a mercury vapor lamp. No reaction occurred from the light of a strong incandescent lamp or of a carbon arc lamp of little potency or from infra-red rays.

The author obtained a positive passive transfer with the Prausnitz-Küstner method. "The transfer was successful several times in the classical form, i. e. by the intradermal injection of the patient's serum, followed after twenty-four hours by irradiation with suberythema-erythema doses. At the site inoculated with the patient's serum, hyperemia appeared with strong itching and then a typical urticaria developed, whereas the place inoculated with the control serum showed no reaction." The inverse transfer test of Kenedy, i. e. starting with irradiation and injecting the patient's serum one-half hour later and on the next day, gave negative results.

According to the author, the literature contains no previous report of a successful Prausnitz-Küstner transfer in photogenous urticaria.

Rajka believes that the physical allergies are of a true allergic nature, especially thermal and mechanical allergy, and that the pathomechanism in light urticaria can be assumed to be based on an allergen-reagin reaction.

CONTACT DERMATITIS FROM THE NARROW LEAF MARSH ELDER (IVA ANGUSTIFOLIA): OBSERVATIONS ON THE DERMATITIS-PRODUCING FACTOR. WILLIAM A. SMITH, HOMER E. PRINCE and MARY LOU COLE, J. Allergy **13**:371 (May) 1942.

Of approximately 100 patients with clinical histories of weed dermatitis and positive reactions to patch tests observed by the authors, 24 were found sensitive to Iva angustifolia. Of these, 5 were sensitive to this weed alone; the other 19 presented multiple sensitivity, being sensitive to from two to fourteen weeds. The average age was 45 years, and the duration of the dermatitis varied from a few months to seventeen years.

Dermatitis from this plant assumes the definite clinical picture of weed dermatitis, the eruption first involving the exposed areas, such as the ankles, hands, neck and face. The eruption may eventually become generalized and involve the entire cutaneous surface, including the scalp. The mucous membrane of the lips and glans penis are occasionally involved. As a general rule, this dermatitis begins in early spring and disappears with cold weather, but with each year the period of clearing in the winter becomes shorter until the condition assumes a perennial course.

Iva angustifolia is a common weed in southeastern Texas, particularly in the cutover rice fields, but it grows in abundance in the river bottom lands of Arkansas, Louisiana and Texas. It blooms in the fall and produces great quantities of pollen. The pollen has severe inhalant characteristics, causing hay fever and asthma in susceptible persons.

The dermatitis-producing factor occurs in the heads, the leaves, the stalks and the roots of the weed. The skin-sensitizing fraction is soluble in ether, alcohol, acetone, hypertonic saline solution, glycerine, cold water and boiling water. A watery extract of the weed was subjected to dialysis through a cellophane membrane, and it was found that the dialysate contained the dermatitis-producing factor. In the opinion of the authors, this would seem to indicate, first, that this factor is of relatively small molecular structure and, secondly, that it is apparently not an oleoresinous material.

Treatment consists of avoiding the weed, giving the excitant in the form of ether-extractable oleoresins by mouth and applying indicated local dermatologic therapy. Desensitization with injections of an alcoholic solution of the oleoresin gave poor results.

ODORS (OSMYLS) AS ALLERGENIC AGENTS. ERICH URBACH, J. Allergy **13**:387 (May) 1942.

The author presents clinical and experimental evidence which seems to indicate that the scents from flowers, fruits and resins and the odors of foods of animal and plant origin, as well as those of the animals themselves, are propagated by minute particles and can act as allergens in certain cases.

The study is based mainly on 2 patients who were hypersensitive to sage tea. Both patients had swelling and inflammation of the oral mucosa on contact with this substance. The author cites reports in the literature of different effects on the mucous membrane and skin of scents from various foods.

If one bears in mind the possibility of scent allergy, a sound explanation is offered for the failure of pollen extract therapy in cases of hypersensitiveness to the scent of some trees and plants without an associated hypersensitiveness to their pollen.

The author describes a method of oral administration of substances prepared by the process of enfleurage for the treatment of scent allergies.

MENDELSOHN, New York.

DERMATOMYOSITIS IN CHILDHOOD. MANES S. HECHT, J. Pediat. **17**:791 (Dec.) 1940.

Five cases of dermatomyositis encountered at the Harriet Lane Home have been described. There were 2 deaths and 3 recoveries. In 4 cases the disease was complicated by calcinosis universalis. Two patients had intercurrent attacks of erysipelas; another had streptococcic cellulitis. They recovered from these complications. Suppurative myositis was the cause of 1 death. Muscle involvement was widespread and severe in each instance. Cutaneous manifestations varied. Gingivitis occurred in 3 cases. Hematologic findings were essentially normal, except for eosinophilia of varying degree in 3 cases and severe anemia in 1. There is no specific treatment for dermatomyositis. The death rate is high, but patients who are fortunate enough to survive overcome contractures and muscular weakness practically completely. Calcium deposits, in cases so involved, disappear in time by absorption or sloughing out, or both. The danger of intercurrent pyogenic infection in this disease cannot be stressed too greatly. Apparently, minor trauma may be the opening wedge for serious or even fatal infection. The relationship of dermatomyositis to generalized scleroderma has been discussed. There is no adequate proof that dermatomyositis is of infectious origin.

FROM THE AUTHOR'S SUMMARY. [AM. J. DIS. CHILD.]

SPECIFIC SUBSTANCES IN THE URINE OF LEUCEMIA PATIENTS. F. R. MILLER and W. A. HAUSE, Proc. Soc. Exper. Biol. & Med. **45**:387 (Oct.) 1940.

Using a modification of McCullagh's method (*Endocrinology* **22**:120, 1938) for extracting androgens from the urine, the authors obtained extracts from the urine of patients with chronic myeloid leukemia which when injected into guinea pigs caused myeloid proliferation in the liver, spleen, adrenals, lungs and kidneys. Changes also occurred when extracts of the urine of patients with acute lymphoblastic anemia and chronic lymphoid leukemia were injected. Lymphocytic proliferation occurred in the liver, spleen and adrenals of animals given the extract of urine from the patients with chronic disease, and a maturation of the bone marrow was noted in the animals given the extract of urine from the patients with acute lymphocytic leukemia. No specific cellular response occurred when extracts of the urine from 2 normal subjects were used.

HANSEN, Minneapolis. [AM. J. DIS. CHILD.]

OBSERVATIONS ON THE MASSIVE DOSE ARSENOTHERAPY OF EARLY SYPHILIS BY THE INTRAVENOUS DRIP METHOD. I. TOXICOLOGY, CLINICAL OBSERVATION, AND THERAPEUTIC RESULTS. J. F. SADUSK JR., B. CRAIGE, N. BROOKENS, A. K. POOLE and M. J. STRAUSS, Yale J. Biol. & Med. **14**:333 (March) 1942.

The authors treated 33 patients with massive arsenotherapy by the continuous intravenous drip method In addition to the usual toxic manifestations, previously described by Hyman and his co-workers, the authors encountered late secondary anemia and certain electrocardiographic changes in the T waves in 1 case. Preliminary administration of a bismuth compound did not prevent the occasional development of a Herxheimer reaction. It is suggested that the results of dark field examination of the lesions are rendered negative within twenty-four hours. Patients who were retreated with massive arsenotherapy did not acquire sensitivity to arsenic during the first course of treatment. In 2 instances in which positive serologic reactions of the cerebrospinal fluid were present at the time of treatment, these abnormalities returned to normal during the follow-up period. Of 12 cases followed for twenty-four weeks or longer, the treatment in 3 has been classed as a failure, although close inspection of the case records suggests that in 1 instance the serologic reaction may yet revert to negative and in another instance the possibility of reinfection must be considered, thus leaving only 1 definite case of seroresistance, a condition which sometimes follows the best available treatment.

OBSERVATIONS ON THE MASSIVE DOSE ARSENOTHERAPY OF EARLY SYPHILIS BY THE INTRAVENOUS DRIP METHOD. II. ELECTROCARDIOGRAHIC ABNORMALITIES ASSOCIATED WITH MASSIVE ARSENOTHERAPY. A. J. GEIGER, B. CRAIGE JR. and J. F. SADUSK JR., Yale J. Biol. & Med. **14**:356 (March) 1942.

Serial electrocardiograms were obtained before, during and after massive arsenotherapy for 23 patients with early syphilis (25 experiments), and abnormalities were noted in 21 of the experiments. The principal changes were diminution in the amplitude of the T wave in all leads and frequently inversion of the T wave in leads other than the third. The effects were noticed after the treatment course, and in every case the altered electrocardiographic features returned to the pretreatment control values within a few weeks. The authors' interpretation of these changes is that the electrocardiographic abnormalities represent toxic arsenical effects of a transient and benign nature.

OBSERVATIONS ON THE MASSIVE DOSE ARSENOTHERAPY OF EARLY SYPHILIS BY THE INTRAVENOUS DRIP METHOD. III. PREGNANCY, AND ITS OUTCOME, ASSOCIATED WITH OR FOLLOWING THE TREATMENT OF EARLY SYPHILIS BY MASSIVE ARSENOTHERAPY. J. F. SADUSK JR. and T. E. SHAFFER, Yale J. Biol. & Med. **14**:365 (March) 1942.

The authors record the histories of 2 women who had received massive dose arsenotherapy for early syphilis shortly before the onset of pregnancy. The 2 patients were delivered of normal, full term infants, neither of which showed clinical, serologic or roentgenologic evidences of congenital syphilis during a six month follow-up period. The treatment was also given to 2 additional pregnant patients, but neither patient has been delivered and consequently no data are available concerning the fetus.

A CASE OF HOLOGYNIC INHERITANCE OF ICTHYOSIS VULGARIS. TWISTON DAVIES and DONALD MCGREGOR, Brit. J. Dermat. **54**:121 (April) 1942.

A pedigree is reported in which ichthyosis vulgaris partially associated with eczema was inherited in a hologynic manner, i. e., all the females, and only the females, of the family were affected.

BLUEFARB, Chicago.

FAMILIAL OCCURRENCE OF PRURITUS, URTICARIA AND PARESTHESIAS WITH HYPERKINESIS OF THE LOWER EXTREMITIES. J. C. MUSSIO-FOURNIER and F. RAWAK, Confinia neurol. **3**:110, 1940.

Mussio-Fournier and Rawak describe a syndrome found in 3 members of one family. The clinical manifestations were pruritus, urticaria and hyperkinesis of the lower extremities caused by paresthesias appearing during rest. While other members of the same family also showed allergic reactions, the authors express the belief that the present symptoms were not specifically allergic but were secondary to heredodegeneration of the nervous system.

DE JONG, Ann Arbor, Mich. [ARCH. NEUROL. & PSYCHIAT.]

OCULAR MANIFESTATIONS IN PORADENITIS [INGUINAL LYMPHOGRANULOMA]. J. MALBRÁN and E. J. LIMA, Arch. de oftal. de Buenos Aires **15**:524 (Oct.) 1940.

After a brief review of existing knowledge of poradenitis, known under different names (inguinal lymphogranuloma, benign lymphogranuloma, venereal lymphogranuloma, poradenitis, poradenolymphitis, Nicholas Favre's disease), the authors report their investigations in 24 cases in connection with the ocular symptoms. Apart from local conjunctival lesions at times simulating Parinaud's conjunctivitis and indicating an extragenital infection, they found papillary edema

with blurring of the disk margins and dilatation and tortuosity of the neighboring vessels in 82.6 per cent of the cases (with no noticeable loss of sight), pointing to a septicemic process.

C. E. FINLAY. [ARCH. OPHTH.]

DOES SYPHILITIC AORTITIS OCCUR OFTEN IN PATIENTS WITH CONGENITAL SYPHILIS? K. ENGEL, Orvosi hetil. **84**:514 (Oct. 5) 1940.

It is true that the pathologic examination often shows characteristic changes of the aortas of children with congenital syphilis, but the clinical observations show that the clinical symptoms of syphilitic aortitis are very rare. The cause of this is still unknown. The cases thus far reported show that the clinical symptoms are manifested in patients between 10 and 15 years of age or between 40 and 45. The clinical symptoms therefore become evident very late.

GÖTTCHE, Budapest, Hungary. [AM. J. DIS. CHILD.]

ASSOCIATION OF NEUROMUSCULAR SYMPTOMS AND CUTANEOUS LESIONS IN VITAMIN A DEFICIENCY: DISCUSSION OF THE ETIOLOGIC RELATIONSHIP. C. N. FRAZER and S. N. TSAO, Chinese M. J. **59**:309 (May) 1941.

These observers at the Pieping Union Medical College report the case of a 14 year old Chinese boy who had widespread muscular weakness, evidences of a cutaneous rash and a history of vitamin A deficiency. Although the disease resembled a muscular dystrophy, there were some characteristics of polyneuromyelitis. The rash was present over the entire body, in the form of a follicular hyperkeratosis, and disappeared with the use of vitamin A therapy. The therapy, however, did not cure the neuromuscular disease. The disease known as lathyrism has some resemblance to this patient's condition, having been produced experimentally by the lack of vitamin A and having a similar effect on the nervous system. It is also suggested that there might be some relationship in this case to a vitamin E deficiency, since myopathic dystrophies much resembling those in man have been produced experimentally.

RIBOFLAVIN DEFICIENCY AMONG CHINESE: II. CHEILOSIS AND SEBORRHEIC DERMATITIS. H. C. HOU, Chinese M. J. **59**:314 (April) 1941.

Cheilosis is a common feature of pellagra among the children in one of the refugee camps. The author reports on the observations made in these cases and the response to treatment with riboflavin.

The term cheilosis is applied to fissures in each angle of the mouth, with scaly, chapped and reddened lips. The lesion in the corner of the mouth has long been known as perlèche. In pellagrins another sign is common, namely glossitis. In about half of the 186 children cheilosis was present, usually of mild type. Other children with ariboflavinosis showed ocular lesions only or ocular lesions combined with cheilosis.

Treatment with riboflavin caused improvement in some cases on the third day and healing by the sixth day. Treatment by yeast alone caused a somewhat slower course of healing. The dosage of riboflavin was 15 mg. for the first two days and 10 mg. for the next seven to ten days, followed by 5 mg. daily for a week. The seborrheic dermatitis responded readily to treatment, as did the cheilosis.

NUTRITIONAL STOMATOGLOSSITIS AMONG THE WAR REFUGEES IN SHANGHAI. P. T. KUO and M. S. HUANG, Chinese M. J. **59**:430 (May) 1941.

This nutritional disturbance had never been reported in China before or during the present war until Kuo and Huang diagnosed it and studied 237 cases. The diet which has been responsible for the present outbreak consists of plain rice or congee with little, if any, protein or other food essentials and therefore produces the usual inflammatory and atrophic gastrointestinal changes from deficiency of the

vitamin B complex. Nutritional stomatoglossitis is due to a multiple deficiency of more than one of the many factors of this complex and includes pellagrous stomatitis, which is not the same as the lesions produced by a deficiency of the remaining factors of the vitamin B complex.

The authors summarize 18 instances of the disease, in which the patients were given hospital treatment with proper diet, nicotinic acid and liver extract; none of these 18 patients were children. The authors believe that pellagrous stomatitis should be treated with nicotinic acid and liver extract and is therefore clinically and therapeutically different from the similar inflammation of the mouth and tongue caused by the deficiency of the other portions of the vitamin B complex.

NEFF, Kansas City, Mo. [AM. J. DIS. CHILD.]

ERYTHEMA NODOSUM AND OTHER COMPLICATIONS CAUSED BY INTRADERMAL OR INTRAVENOUS INJECTIONS OF FREI ANTIGEN IN LYMPHOGRANULOMA VENEREUM. C. E. SONCK, Acta dermat.-venereol. **21**:473 (May) 1940.

Three cases of lymphogranuloma venereum are reported in which an attack of erythema nodosum was caused by an intradermal Frei test. In 2 other cases the intravenous injections of Frei antigen were followed by attacks of erythema nodosum, which were accompanied by other complications, such as a severe focal reaction in 1 case and a peculiar kind of hallucination in the other. One patient who was treated with intravenous injections of Frei antigen had a severe form of hyperchromic anemia and died. The author believes that the antigen therapy had contributed to the unfavorable course of the disease.

THE TREATMENT OF VITILIGO WITH INTRADERMAL ADMINISTRATION OF GOLD. K. L. YANG, Acta dermat.-venereol. **21**:657 (Nov.) 1940.

The author treated 9 patients with vitiligo and 1 with albinism with lopion (a gold preparation). The injections were given intradermally, except in 1 case in which both intradermal and intravenous injections were given. As the lesions responded only to intradermal and not to intravenous administration of the drug, the selective action of a gold compound on vitiliginous patches was not proved in this case. Among the vitiligos the results in general were satisfactory. Besides some local pain for two to three days and mild local dermatitis of short duration, there were no untoward reactions.

ASTRACHAN, New York.

SYNDROME OF CUTIS LAXA WITH DEFECTS OF SUPERFICIAL MUSCLES AND EDEMA LYMPHANGIECTATICUM. N. I. HEYBROEK, Nederl. tijdschr. v. geneesk. **84**:1902 (May 18) 1940.

The author describes an infant with congenital abnormalities consisting of a lax skin (cutis laxa hypoelastica), total absence of the abdominal musculature and of the platysma and edema lymphangiectaticum on both feet. An attempt is made to bring these three abnormalities into one syndrome, with which aim the evidence found in the literature on this point is taken into account. The syndrome can perhaps be explained as a disturbance of fetal development analogous to that described by K. Bonnevie (1934) in the abnormal mouse strain of Bagg and Little. The author is fully aware of the hypothetic character of this explanation.

BESNIER-BOECK DISEASE. S. VAN CREVELD, Nederl. tijdschr. v. geneesk. **84**:4028 (Oct. 19) 1940.

A girl suffering from Besnier-Boeck disease showed among other clinical particularities symptoms of disturbed renal function, with the formation of stones in the urinary tract, recurring swelling of the salivary glands and roentgenographic abnormalities of the lungs. Attention is drawn to a new inconstant phenomenon, hypercalcemia. A possible relation is discussed between the changes found in the

metabolism of different patients and some clinical symptoms of the disease on the one hand and a possibly disturbed function of the parathyroids on the other hand.

AUTHOR'S ABSTRACT. [AM. J. DIS. CHILD.]

DIAPERS TREATED WITH BORIC ACID IN THE THERAPY OF ECZEMA NATUM IN BABIES. I. VAN DER HEYDEN, Nederl. tijdschr. v. geneesk. **84**:4162 (Oct. 26) 1940.

The author strongly recommends the continued use of dry diapers soaked in solution of boric acid and dried again for babies with eczema natum. This treatment results in disappearance of the eczema within two weeks. The treatment must be continued till the appearance of the skin has become normal.

PATHOGENESIS OF ACRODYNIA AND TREATMENT WITH NICOTINIC ACID. A. J. R. E. VAN SCHOONHOVEN VAN BEURDEN, Nederl. tijdschr. v. geneesk. **84**:4793 (Dec. 7) 1940.

A review is given of the oral treatment with nicotinic acid of 3 patients with acrodynia, 1 aged 16 months and 2 aged 4 years. The symptoms disappeared quickly, and complete recovery took place within two months (whereas the mean duration before 1938 was about six months). The pathogenesis of this condition is dealt with, and it is suggested that its cause lies in a relative shortage of nicotinic acid. The possibility of a combined avitaminosis B_1 and nicotinic acid is referred to. In a fourth case very satisfactory results were obtained after intramuscular injection of 100 mg. of nicotinic acid amide during ten days.

VAN CREVELD, Amsterdam, Netherlands. [AM. J. DIS. CHILD.]

Society Transactions

PHILADELPHIA® DERMATOLOGICAL SOCIETY

A. STRAUSS, M.D., *Chairman*

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Nov. 21, 1941

Trichoepithelioma with Basal Cell Epithelioma. Presented by DR. SIGMUND S. GREENBAUM and DR. BERTRAM SHAFFER.

D. R., a white woman aged 36, presents many pinhead-sized and pea-sized lesions on the face. Around the eyes they are grouped in larger nodules. Several dime-sized lesions on the nose and forehead have undergone ulceration. On the right side of the scalp there is a mass about the size of an apple. The patient first noticed the lesions one year ago. No other member of the family is similarly afflicted. A blood count, urinalysis and chemical examination of the blood showed no abnormalities. The Wassermann reaction was negative.

DISCUSSION

DR. SIGMUND S. GREENBAUM: It is unusual for benign cystic epithelioma to undergo malignant degeneration. I think one or two of the textbooks say that it never occurs, and yet here it apparently has done so.

DR. FRED D. WEIDMAN: The distribution here is that of multiple benign cystic epithelioma. The histologic structure is that of a basal cell epithelioma. I recall a discussion of Sutton's of a presentation by Dr. Traenkle (ARCH. DERMAT. & SYPH. **42**:822 [NOV.] 1940) in which he cited some cases in which this did occur; the lesions grew large and destroyed tissue extensively.

Sarcoidosis, Subcutaneous Nodules Only, and Involvement of the Right Lacrimal Gland(?) (Mikulicz Syndrome). Presented by DR. C. C. THOMAS.

S. J., a Negress aged 22, well nourished and developed, seven months pregnant, presents a small cutaneous nodule on the left side of the forehead. An almond-sized nodule, probably an enlarged lacrimal gland, can be felt in the outer region of the right upper eyelid. This disappears into the orbit on pressure. On the outer part of the right arm, the left side of the chest and the back there are several large hard subcutaneous nodules. The patient noticed swelling and a nodule developing on the right upper eyelid in February 1941. About the same time a small nodule appeared on the left side of the forehead and numerous deep-seated nodules began to develop over various parts of the body. A number of them are present deep in the tissues of the arms, the chest and the back and are slowly increasing in size. The patient has not lost weight but feels fatigued and not well.

There is a moderate generalized lymphadenopathy; the spleen could not be felt because of far advanced pregnancy. A roentgenogram of the chest showed smooth, rounded mediastinal masses due to lymph node enlargement. The second test dose of purified protein derivative (0.005 mg.) gave 2 plus reaction. A blood count showed 4,490,000 erythrocytes and 12,400 leukocytes, with 83 per cent

polymorphonuclear leukocytes, 11 per cent lymphocytes, 3 per cent monocytes and 1 per cent basophils; there was 82 per cent hemoglobin. The biopsy specimen (a subcutaneous nodule removed in toto) showed a well circumscribed mass of tuberculoid structure consisting of masses of endothelioid cells, no giant cells and no lymphocytic reaction. There was no caseation. The diagnosis of sarcoidosis was confirmed by Dr. F. D. Weidman and Dr. Herman Beerman.

DISCUSSION

DR. SIGMUND S. GREENBAUM: The interesting feature is this partial Mikulicz syndrome, which covers a variety of conditions. This is the first case of sarcoidosis I have observed in which only one of the salivary glands has been involved. In a patient I showed before this society both parotid glands were involved (ARCH. DERMAT. & SYPH. **32**:820 [Nov.] 1935). Uveoparotitis must be considered, but with this there is usually a febrile state.

DR. C. C. THOMAS: This patient is another Negro who does not react to tuberculin. She reacted rather feebly to a second test dose of purified protein derivative, which I have found to be generally the case among Negroes. The reaction was merely local.

A Case for Diagnosis. Presented by DR. DOUGLASS A. DECKER, Allentown, Pa.

R. O., a white woman aged 49, presents a deep, bright red ulceration with a rolled, undermined border which occupies the natal cleft extending from the anus to the top of the gluteal muscle. Surrounding this area is a superficial dermatitis about 2 inches (5 cm.) wide. For the past five years the patient has had an eruption involving the scalp, the eyebrows, the regions behind the ears and under the breasts and the genitocrural region. One year ago the present ulceration of the natal cleft appeared.

The Wassermann reaction of the blood was negative, and the urine was normal. A blood count was normal. Culture revealed Staphylococcus aureus. Smears for tubercle bacilli were negative. Examination of a biopsy specimen showed subacute inflammation. The patient has been given gentian violet, cod liver oil ointment, sulfanilamide and sulfathiazole and injections of liver extract. The lesion was destroyed by electrocoagulation, and it recurred. It was completely excised, and again it recurred.

DISCUSSION

DR. HERMAN BEERMAN: I considered the diagnosis of tuberculosis.

DR. CARROLL S. WRIGHT: Was the biopsy specimen taken from the border of the ulceration?

DR. DOUGLASS A. DECKER, Allentown, Pa.: The reports of two biopsies were presented; the specimens included both borders.

DR. D. M. PILLSBURY: Have anaerobic cultures been made?

DR. DOUGLASS A. DECKER, Allentown, Pa.: I am sorry to say that they have not.

DR. D. M. PILLSBURY: The patient may have a microaerophile infection with the added factor of trauma, which one sees so frequently in the gluteal cleft. I suggest treatment with zinc peroxide.

DR. SIGMUND S. GREENBAUM: I think the lesion is related to geometric phagedena. The patient has a history of infectious dermatitis of the scalp, brows and ears, all of which have cleared up. She has an intertrigo in connection with this, which I think is a microsymbiotic infection, and treatment with zinc peroxide and sulfathiazole should be instituted.

DR. BERNARD L. KAHN: I had a similar case in which there were lesions in the axillary region with indurated, rolled-out borders, which healed under treatment with sulfathiazole ointment.

Periarteritis Nodosa. Presented by Dr. J. P. Guequierre and Dr. Sigmund S. Greenbaum.

C. S., a white boy aged 11 years, presents a papular eruption of split pea-sized red lesions, exceedingly painful on pressure. These lesions arise and disappear rapidly, leaving a purplish red discolored area. The arms and legs are mottled with purplish, splotchy areas, much increased when the extremities are dependent. There are small, pea-sized, flat, brownish, pigmented areas on the face, neck and chest. The lesions are increasing in numbers. The patient had the usual childhood diseases and also typhoid, pneumonia and pleurisy. He is said to have had rheumatic fever three and one-half years ago. A tonsillectomy was performed in 1940. From the time of the "rheumatic fever" (headache with pains in the joints and stiffening of the muscles, particularly of the legs), he has had painful cutaneous lesions with stiffening of the muscles, particularly when moving from a position he has assumed for some time.

The patient is a poorly nourished, thin, asthenic type of child. The heart and lungs are grossly normal. There is a left upper rectus hernia of the abdominal wall. There is cervical shotty lymphadenopathy. A complete blood count was normal except that there was evidence of moderate anemia. The result of a fragility test and the coagulation and bleeding times were normal. The values for sugar, urea nitrogen, carbon dioxide–combining power, chlorides, cholesterol, phosphorus and calcium of the blood were within normal limits. The pathologic diagnosis was an inflammatory process associated with vascular injury and strongly suggesting periarteritis nodosa.

DISCUSSION

Dr. Fred D. Weidman: I heard Dr. Ketron read his paper on periarteritis nodosa and recall that its commonest dermatologic expression was reticular erythema, like an erythema ab igne.

Dr. D. M. Pillsbury: I should like to suggest an alternate diagnosis of low grade dermatomyositis. Also it is interesting that the disease is confined entirely to the legs.

Dr. Sigmund S. Greenbaum: That diagnosis was considered.

Dr. Fred D. Weidman: Patients with this disease are usually very sick, and this boy did not impress me as being sick.

Dr. J. P. Guequierre: He is better now than he has been; he has had this disease for three years. A year ago he was confined to bed because he was unable to stand on his feet. He has been desperately ill and is just now showing improvement.

Dr. Sigmund S. Greenbaum: The reactions to tuberculin tests, both intradermal and patch, were negative. Practically all the studies have been normal. Three diagnoses were considered, periarteritis nodosa, sarcoidosis and dermatomyositis, and the laboratory investigator leaned toward the diagnosis of periarteritis nodosa.

Keratosis Plantaris (Symmetric). Presented by Dr. D. M. Pillsbury and Dr. J. W. Lentz.

M. M., a white boy aged 13, presents symmetric keratoses on the feet, involving the heels and the lateral and mesial sides. There is no history of ingestion of arsenic. The parents and grandparents apparently never had any cutaneous disease. Three siblings also do not have this condition. The patient has acne vulgaris of one year's duration. He has had no serious illnesses. The keratoses were noticed first when the patient was 7 years old and have progressed slowly to date. They have not been treated. The case is presented for suggestions as to therapy.

DISCUSSION

DR. WILLIAM O. ROOP, Atlantic City, N. J.: The treatment should include both surgical methods and the use of radium. I doubt that anything except radium would be effective in lesions as extensive as these. The lesions would have to be pared down, and then I think radium would offer a good chance of destroying them permanently.

DR. A. STRAUSS: One of the most extensive examples of this disease I have ever seen cleared up under the administration of arsenic. The patient happened to be syphilitic, and while he was receiving the arsphenamine treatment the keratosis disappeared entirely. The lesions were not quite as severe as this but more extensive, both palms and soles being involved.

DR. D. M. PILLSBURY: This is an extraordinary picture, coming on at the age of 7, without involvement of the hands, evidence of an infectious background or history of familial involvement. He has not yet been studied completely from the standpoint of a local infection.

Keratosis plantaris.

Pemphigus Vegetans with Possible Arsenical Keratoses. Presented by DR. H. E. TWINING.

M. M., a white woman aged 42, about eighteen months ago had an eruption which was diagnosed by her family physician as urticaria. A few weeks later the mucous membranes of the mouth and throat became involved, causing considerable discomfort. The use of iodized salt was discontinued at this time, and solution of potassium arsenite U. S. P. was given for one year. Vesicles developed, which gradually increased in extent until the summer of 1941, when there was a slight remission, which, however, lasted only a few weeks and was followed by an exacerbation with development of new lesions, which are still occurring.

There are large patches of fungoid verrucous vegetation involving especially the genitalia, groins, inner aspects of the thighs, axillas, arms, inframammary regions, umbilicus, lower part of the legs and mucous membranes of the mouth and throat. Papillomatous growths of various sizes, well defined, many be seen in scattered areas over practically the entire body, including the scalp. On the borders of these well defined coalesced regions there are many vesicles and small bullae, some clear and some purulent. The mucous membranes of the mouth and tongue show eroded areas or superficial ulcerations. The apparently uninvolved skin is hyperpigmented, with areas of scarring.

Urinalysis showed a slight trace of albumin, a 2 plus reaction for sugar and occasional finely granular casts. A blood count revealed 2,870,000 erythrocytes

and 19,300 leukocytes, with 29 per cent polymorphonuclear leukocytes, 10 per cent lymphocytes, 4 per cent monocytes and 57 per cent eosinophils; there was 89 per cent hemoglobin. The blood sugar content was 83 mg., urea 10 mg. and creatinine 1.4 mg. per hundred cubic centimeters.

DISCUSSION

DR. HERMAN BEERMAN: I agree with both diagnoses.

DR. SIGMUND S. GREENBAUM: If one looks closely at the vegetating lesions on the lips, one does not see any blebs that would suggest pemphigus. However, on the legs there are flaccid blebs and large pustules. I agree with the diagnosis of pemphigus vegetans. In 2 cases I have seen the vegetating lesions clear up completely under the use of sulfathiazole by mouth, and I suggested to Dr. Twining that he try that in this case. I think at least it will affect the vegetating parts of the lesions, which I believe represent secondary infections.

DR. FRED D. WEIDMAN: In one of these cases, among the secondary infectious organisms, I have found Vincent's spirochete, and though the disease was not cured it was notably improved by the use of arsphenamine.

DR. D. M. PILLSBURY: Is there possibly a nutritional factor here?

DR. H. E. TWINING: I do not believe so. The patient's appetite has been good, and she has been able to eat and enjoy her food. Would you advise giving arsphenamine in view of the fact that the patient has had so much solution of potassium arsenite U. S. P. without improvement? Roentgen therapy has also been given without any improvement.

DR. FRED D. WEIDMAN: I should administer the arsphenamine locally, at least.

Hydrarthrosis, Intermittent. Presented by DR. L. M. JOHNSON, Lancaster, Pa.

E. W., a white woman aged 24, at the age of 13 or 14 years noted localized swellings under the skin of the hands and wrists. The swelling gradually disappeared, and none occurred for several years. Since then numerous swellings have appeared around the elbows, wrists, knees and ankles. They come and go, usually over a period of six months to two years. There is no pain, except on limitation of motion. Two years ago the menses became less and now last only about one day. In May 1940 phlebitis of the right leg developed. The patient has had measles and scarlet fever.

She is well nourished and has a blood pressure of 150 systolic and 90 diastolic. The weight was 158 pounds (71.7 Kg.) two months ago and is now 153 pounds (69.4 Kg.). A complete blood count revealed 4,050,000 erythrocytes and 7,900 leukocytes, with 66 per cent neutrophils, 29 per cent lymphocytes, 1 per cent monocytes, 3 per cent eosinophils and 1 per cent basophils; there was 81 per cent hemoglobin. Urinalysis gave normal results. The basal metabolic rate was +4 per cent. The values for blood urea nitrogen, blood cholesterol, plasma albumin and plasma globulin were within normal limits. The results of a van den Bergh test and a dextrose tolerance test were normal. Results of hormone studies were also normal. Aspiration of fluid from the left foot yielded about 1 ounce (30 cc.) of gelatinous fluid. The results of complete allergy studies were negative. The patient has been given amphetamine sulfate, 15 mg. daily.

DISCUSSION

DR. L. M. JOHNSON, Lancaster, Pa.: Intermittent hydrarthrosis is a disease usually seen in patients allergic to intestinal toxemias or bacteremias. These swellings resemble "ganglions," but they come and go rather rapidly, more in the nature of an anaphylactic process. The diagnosis here is by no means final. Against the diagnosis of intermittent hydrarthrosis is the fact that the swelling lasts for six months to two years..

DR. HERMAN BEERMAN: It seems that the structure around the joint is involved but not the joint itself.

DR. L. M. JOHNSON, Lancaster, Pa.: The joint is not involved.

DR. HERMAN BEERMAN: This patient might have a synovitis.

DR. D. M. PILLSBURY: I wonder whether this patient's condition could not be classified under what is often called mucoid degeneration of a more diffuse type than the ordinary ganglion.

DR. L. M. JOHNSON: A surgeon referred the patient to me with the idea that she had an allergic condition and not mucoid degeneration.

DR. D. M. PILLSBURY: It is rather hard to explain these changes on an allergic basis.

DR. L. M. JOHNSON, Lancaster, Pa.: All the studies have given negative results. She has lost 5 pounds (2.3 Kg.) on the amphetamine treatment, feels much better and is more alert. The lesions improve when she loses weight.

DR. THOMAS BUTTERWORTH, Reading, Pa.: I had a patient with a condition somewhat similar to that of this one whom I treated for a drug eruption. Later I sent her to an orthopedic surgeon. He expressed great confidence that the condition was due to some dysfunction of the thyroid and suggested that she be sent to an internist. The latter gave her thyroid, and the lesions cleared.

DR. L. M. JOHNSON, Lancaster, Pa.: This patient has taken thyroid without any benefit. She has had repeated basal metabolic examinations, and the results have all been normal.

NOTE (Sept. 18, 1942).—On continuance of the amphetamine sulfate therapy the patient feels much better and the swellings have all disappeared. She is more active, tires less easily and is apparently normal in every respect.

Melanoma. Blue Nevus? Presented by DR. J. P. GUEQUIERRE.

W. J., a white woman aged 41, presents slight thickening, erythema and scaling of both hands. There is a 3 mm. raised, slaty blue lesion, the center less pigmented than the periphery, on the dorsum of the right hand. There have been severe edema, oozing, fissuring and scaling of both hands for a year and a half. These conditions have recently receded under injections of liver extract intramuscularly.

DISCUSSION

DR. THOMAS BUTTERWORTH, Reading, Pa.: I agree with the diagnosis of melanoma.

DR. CARROLL S. WRIGHT: I do not think there is any question about this diagnosis.

DR. J. P. GUEQUIERRE: I plan to excise the lesion widely. It is always a question whether it is wise to disturb such a lesion; but if one does not remove it and it suffers any trauma and enlarges, the question comes up: Why did you not remove it in time?

DR. SIGMUND S. GREENBAUM: Is the term "melanoma" used in a benign or malignant sense? I think this lesion is benign, and if it were on any member of my family, I believe I would let it alone.

DR. CARROLL S. WRIGHT: This is an important point. I recall a patient who was seen about fifteen years ago by another physician for a tinea infection of his feet. He had a lesion like this on his foot at the time, which was let alone. Years later the man injured himself and a widespread melanosis developed; he threatened to bring suit against the physician for not insisting that he have the lesion removed. The physician has a certain responsibility in a case like this. In the last year or two I have had 2 such cases at the clinic, and both times I advised that the lesions be removed. In both cases the pathologist reported malignancy. I had regarded both lesions benign.

DR. J. P. GUEQUIERRE: I recall a woman whom I saw several years ago with a lesion exactly like this except that it was somewhat larger. Some one had tied a horsehair around the lesion, and when I saw the patient she had seven nodules on the arm.

DR. SIGMUND S. GREENBAUM: This particular lesion is extremely hard, whereas the ones that Dr. Wright has been talking about are somewhat softer. Just what the difference is histologically I do not know, but I think that the really hard type is due to a foreign body reaction rather than purely nevus cells.

DR. J. M. SCHILDKRAUT, Trenton, N. J.: Eller in his book classifies the blue nevus as of mesodermal origin, and when it undergoes malignant degeneration he classifies it as a nevosarcoma. I remember some years ago a boy with one on the leg. I advised him to let it alone, as he had numerous moles on the body. Some years later, when he was a young man, he consulted me because the lesion had broken down. I had it excised, but metastasis later developed in the groin, for which the patient had heavy roentgen ray treatments; I fear the ultimate outcome. My own experience with melanoma has been rather bad. Patients with lesions that have broken down do not survive.

Necrobiosis Lipoidica Diabeticorum. Presented by DR. LESLIE NICHOLAS (by invitation).

W. M., a white man aged 34, presents on the left leg, 5 cm. above the medial malleolus, a 2.5 cm. reddish brown, infiltrated, sharply marginated, circular plaque with an atrophic center and a somewhat prominent margin. On the right leg there is at the midpoint anteriorly an irregular 4 by 3 cm. dull brown macule with indistinct fading margins; there is no infiltration except in a 5 mm. papule in its center. Below the patella on the same leg there is a 2 cm. infiltrated, definitely marginated, reddish yellow–brown plaque. The patient, a normally developed, well nourished and moderately obese man, two and a half years ago traumatized the inner aspect of the lower part of the left leg, and a small, firm lesion developed, which has gradually increased in size. He injured the right shin twice, at the midpoint one year ago and below the patella six months ago. None of the three lesions ulcerated. All are painless and not tender. Except for having mild polydipsia, polyuria and nocturia the patient is symptom free. The diagnosis of diabetes mellitus was made five weeks ago after a blood sugar determination in a routine examination. The patient's mother has had diabetes for ten years.

His weight is 209 pounds (95 Kg.), standard weight being 157 pounds (71.2 Kg.). The fasting blood sugar was 156 mg. per hundred cubic centimeters. The Exton-Rose dextrose tolerance test resulted as follows:

	Fasting	One-Half Hour	One Hour
Blood sugar (per hundred cubic centimeters)..	256 mg.	280 mg.	326 mg.
Urine sugar (per hundred cubic centimeters)..	4.8 mg.	4.8 mg.	5.1 mg.

The cholesterol content of the blood was 174 mg. per hundred cubic centimeters and the cholesterol esters 95 mg. (55 per cent of total). The patient is taking 15 units daily of protamine zinc insulin with a diet limited to 80 Gm. of protein, 110 Gm. of fats and 220 Gm. of carbohydrates. The biopsy showed the picture of necrobiosis lipoidica diabeticorum, including the presence of fat in frozen sections stained by sudan III. The fat could not be visualized by polarized light.

DISCUSSION

DR. LESLIE NICHOLAS (by invitation): I asked the house physician to examine patients in the Philadelphia General Hospital carefully for this condition, as in this hospital I believe there is the largest diabetic clinic in the United States, and this was the only case of this disease encountered.

Pemphigus Vulgaris in Mother and Daughter. Presented by DR. SIGMUND S. GREENBAUM.

B. G., a white woman aged 50, well nourished and not appearing acutely ill, presents shallow, rather superficial ulcerations on the soft palate, uvula, anterior pillars of the fauces and the upper and lower gums, particularly on the right side. There is a reddish areola surrounding a superficial whitish base, with slight induration. During her stay at the hospital three small papular lesions, two on the right frontotemporal area at the hair line and one on the left shoulder, appeared. The patient's father died at the age of 50 of coronary occlusion. Her mother died at 55 of pemphigus. She has three brothers and four sisters living and well. There is no history of tuberculosis, diabetes, malignant disease or syphilis in the family. The patient had the usual childhood diseases and frequent colds. She had diphtheria in November 1923 and a pelvic operation in 1929. She has complained of ulcers of the throat and mouth intermittently for a considerable time but constantly for the past year. In January 1941 she was studied completely at another hospital and treated, with relief. The ulcers have for the most part involved the throat but also the tongue and the inner sides of the cheeks. She has had dysphagia, which accounts for a loss in weight of 9 pounds (4.1 Kg.) in two weeks.

The medical examination showed no essential abnormalities except a fairly well developed cervical lymphadenopathy. The urine was normal. The blood count showed 4,700,000 erythrocytes and 9,600 leukocytes, with 64 per cent neutrophils, 32 per cent lymphocytes, 1 per cent monocytes and no immature cells. There was 78 per cent hemoglobin (13 Gm. per hundred cubic centimeters). The reaction to heterophil antigen was negative. The sugar content of the blood was 120 to 151 mg. per hundred cubic centimeters, the urea nitrogen 13 mg. and the chlorides 514 mg. The stools were normal. A roentgenogram of the chest showed a small tuberculous focus on the right side of the fourth interspace. The appearance was that of a healed minimal tuberculosis. Reexamination was considered advisable.

DISCUSSION

DR. SIGMUND S. GREENBAUM: This patient has had these lesions limited to the mouth since last January. I saw her in April, at which time the lesions looked like those of aphthous stomatitis. In August I saw her again, and the lesions again seemed to be like those of aphthous stomatitis. In September I saw her for the third time in the hospital, and I then made a diagnosis of pemphigus limited to the mucous membranes. I then obtained the history that I had treated the mother in 1925 for pemphigus vulgaris. Lesions developed in the scalp, typical flaccid blebs. I have presented the case because it is another instance of familial pemphigus, similar to others I have previously encountered, in father and son, in two sisters and in husband and wife. The rather long duration of the oral lesions preceding the lesions on the skin is also of interest.

Xanthoma Tuberosum (Results of Low Fat Diet). Presented by DR. CARROLL S. WRIGHT.

J. W., a white man aged 45, three years ago started to have yellowish, painful growths on the thighs and flexor surfaces. They gradually increased in number and size. At the time of the first examination the patient showed many pea-sized to hazelnut-sized yellowish round firm nodules, chiefly on the elbows, knees and buttocks. The cholesterol content of the blood was 232 mg. per hundred cubic centimeters on Sept. 22, 1941 and the blood sugar 151 mg. The patient was given a low fat diet. At the time of presentation the lesions have largely undergone involution. I do not know whether to classify the disease as xanthoma tuberosum or diabeticorum.

DISCUSSION

DR. FRED D. WEIDMAN: Of course these lesions are known to improve with the improvement of the diabetic state. The question is whether at this time for some reason the blood cholesterol content has returned to normal.

A Case for Diagnosis (Lupus Erythematosus? Pemphigus? Folliculitis Decalvans?). Presened by DR. CHARLOTTE BACKUS-JORDAN, Stroudsburg, Pa.

Mrs. H. S., a white woman aged 31, presents an infection of the scalp and sores around the lower part of the vulva and the anus. As long as the patient can remember she has had an oozing, crusted lesion on the scalp with a bald spot the size of a silver dollar on the apex of the scalp. She was reared in an orphanage, and it has been difficult to obtain a history as to exactly when the disease began. She does remember that at the age of 3 years she had a severe treatment of the scalp while she was in the orphanage. For the past year she has had a recurring bullous lesion around the vulva and anus. Her general health has been good; she has had no serious illnesses. Her mother died when the patient was an infant; her father is in the army, and she knows nothing of his whereabouts. Her husband is living and well, and she has one son living and well. In December 1940 she first consulted me, and her scalp cleared up almost entirely with four unfiltered roentgen ray treatments to the top and back of the scalp (50 r at each treatment) and the application of an ointment containing sulfur, salicylic acid and tar, together with five injections of gold sodium thiosulfate. After her last injection a mild dermatitis developed. For that reason gold therapy was discontinued. Since then she has had six roentgen ray exposures to the vulva and anus and the application of 15 per cent chlorhydroxyquinoline (quinolor) ointment to the scalp (which caused a severe flare-up) and sulfanilamide ointment to the vulvar lesions. For the past five weeks she has been given 0.05 cc. of streptococcus vaccine and toxin intradermally, and there has been slight improvement.

Potassium hydroxide preparations of material from the lesion were normal, as were dark field examination and fungus cultures. Bacterial cultures of material from the scalp showed hemolytic Staphylococcus aureus. Bacterial cultures of material from the perianal region showed hemolytic streptococci, nonhemolytic streptococci and Staphylococcus albus.

DISCUSSION

DR. DONALD M. PILLSBURY: I saw this patient in the clinic three or four times and studied her extensively, and I do not know how to classify the eruption. It is interesting that the lesions did clear up on gold therapy, but I have no diagnosis to offer. Is there any chance of the lesion's being a factitial eruption?

DR. CHARLOTTE BACKUS-JORDAN, Stroudsburg, Pa.: I do not think so.

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Nov. 27, 1941

Tertiary Syphilis of the Skin (Gumma of the Lip). Presented by DR. MAX E. KRAUSE and DR. E. B. HEISEL.

J. J., a Negro aged 50, presented from the department of dermatology and syphilology, City Hospital, complains of a progressive, painless enlargement of the lower lip of two months' duration. He was seen first in the syphilis outpatient clinic in January 1939, at which time he had a positive serologic reaction of the blood for syphilis. He did not return for further observation until November 1941.

He presents a diffusely enlarged, everted lower lip, which is approximately twice the normal size. The right three quarters of the lip is composed of a firm, nontender, flat mass, 2 by 6 cm. The left one quarter of the lip is soft and elastic. The vermilion border is smooth but considerably enlarged. There is no break in the mucous membrane, but there is a dimpling suggestive of early erosion or ulceration. The submaxillary lymph nodes on the right side are enlarged, firm and freely movable.

The hemogram and urine were normal. Serologic reactions of the blood for syphilis were positive. The patient refused a lumbar puncture. Frei and Ito-Reenstierna intradermal cutaneous tests gave negative reactions.

Histologic examination revealed a section of stratified squamous epithelium showing marked acanthosis. The dermal papillae were increased in number. The blood vessels were dilated, and there was an infiltrate consisting largely of lymphocytes and plasma cells. The entire dermis was the site of a dense infiltrate, consisting of lymphocytes, plasma cells and a few giant cells. There was also proliferation of the fibrous tissue. In many areas the infiltrate appeared to be in parallel strands, and in one area degeneration was taking place.

DISCUSSION

DR. E. W. NETHERTON: I think this lesion is an example of a true gumma of the lip. I did not see the section, but the lesion is definitely infiltrated. There is some infiltration throughout the larger portion of the lip, particularly on the right side. Clinically, this case resembles closely 2 of my cases, one of which I presented several years ago before this society as an instance of chronic elephantiasis of the lip due to syphilis. The lip in my case was soft, a good deal like the left side of this man's lip. It was the rolled-out, protruding type of lip that Fornier described. The process was definitely a syphiloma. In neither of my cases was there any response to antisyphilitic therapy. I believe that in the case just presented the lesion is a true gumma and not one of Fornier's examples of syphiloma. There was a good deal of difference of opinion in Fornier's cases as to whether the lesions were syphilitic at all. In none of his cases had there been histologic examination. I predict that this lesion will respond to antisyphilitic therapy, although there may be some residual edema remaining.

DR. HUGO HECHT (by invitation): Many years ago I observed a case of similar involvement of the upper lip. I am convinced that it was caused by syphilis. A number of years later the swelling was still present. I believe the lesion in the case presented is of the same type, and I doubt if treatment of any kind will be successful. It is a form of syphilitic elephantiasis.

Laurence-Moon-Biedl Syndrome; Seborrheic Dermatitis. Presented by DR. E. B. HEISEL and DR. MAX E. KRAUSE.

W. D., a white man aged 46, presented from the department of dermatology and syphilology, City Hospital, complains of itching of the scalp and body of six months' duration. He also gives a history of poor vision, deafness and obesity since childhood. He is without libido and has never had a penile erection. He has four brothers; one, he states, is "just like I am"; one is married and has five children, and two are unknown to him. His parents died when he was 6 years of age, and he can give no history of parental consanguinity.

Physical examination reveals an obese white man, weighing 231 pounds (105 Kg.), whose body contours show feminine characteristics, with the obesity localized largely in the mammary and girdle areas. The axillary hair is absent, the pubic hair scanty, the face beardless and the hair of the scalp short and coarse. The eyes show nystagmoid movement. The pupils are unequal but react to light and in accommodation. Examination of the fundi shows the optic disks to be normal in size and outline, with tessellation present throughout, sclerosis of the choroidal vessels and atrophy of the pigmentary layer, most pronounced at

the cecocentral area. The left lobe of the thyroid is enlarged, smooth and freely movable. The penis measures 5 cm. from the pubis to tip. There are small masses in the scrotum which might be interpreted as atrophic testes. There is brawny edema of both legs. On the scalp, in the axillary, submammary, interscapular and sternal areas and in the folds of the skin of the trunk there is a symmetric, generalized erythematosquamous eruption. The ankles show a deep brown pigmentation. The reflexes are physiologic. The voice is high pitched, and there is definite mental retardation.

The hemogram and urine were normal. Serologic reactions of the blood for syphilis were negative. The fasting blood sugar content was 91 mg. per hundred cubic centimeters. After 100 Gm. of sugar was given orally, the blood sugar at one-half hour was 115 mg., at one hour 75 mg., at two hours 78 mg. and at three hours 84 mg. per hundred cubic centimeters. The basal metabolic rate was —24 per cent. Roentgenograms of the hands and skull showed no abnormalities.

DISCUSSION

DR. H. J. PARKHURST, Toledo, Ohio: I should like to know in what ways this case differs from one of the so-called Fröhlich syndrome.

DR. H. N. COLE: The dermatologist occasionally encounters a case of dystrophia adiposogenitalis, or Fröhlich's syndrome, in which there are adiposity, genital atrophy and changes in the secondary sexual characteristics, with development of the feminine type. Our patient also has a nystagmus. The Laurence-Moon-Biedl syndrome differs from this disease somewhat in that it includes these symptoms as well as retinitis pigmentosa, mental deficiency, skull defects and sometimes a syndactyly.

Lymphogranuloma Venereum with Rectal Syndrome and Esthiomene. Presented by DR. E. B. HEISEL and DR. MAX E. KRAUSE.

F. F., a Negress aged 20, presented from the department of dermatology and syphilology, City Hospital, complains of a swelling of the vulva of six months' duration and of a bloody rectal discharge and constipation of one year's duration. She had her first sexual contact five years ago. She has been married four years and states that she has had no extramarital contacts.

Physical examination reveals a large and edematous right labium majus and minus and a definitely enlarged prepuce and left labium minus. The right wall of the vagina is ulcerated, firm and thickened, the site of raised granulations. The rest of the vagina appears normal. The urethra is surrounded by gelatinous-like granulations. There are several enlarged firm anal tags, one measuring 3 by 2 cm. There are no sinuses present. About 5 cm. from the anal opening there is a rectal stricture, which involves the right wall, posterior wall and lower quarter of the left wall but does not seem to involve the anterior and left anterolateral wall. All other physical findings are normal.

The hemogram and the urine were normal. Serologic reactions of the blood for syphilis were positive. The Frei intracutaneous test elicited a positive reaction and the Ito-Reenstierna test a negative reaction.

DISCUSSION

DR. E. B. HEISEL: It is interesting to note that in this case the edema of the vulva is largely on the right side and that there is also granulomatous tissue infiltrating the right side of the vagina and the right side and posterior portion of the rectal wall. The pathologic changes are interesting in that when there is a lesion of the granulomatous type around the clitoris in the female almost immediately lymphedema of the labia results. This type predisposes to a lympathic drainage into the rectum, giving rise to a stricture. The question of therapy arises. The surgeons have recommended resection of the rectum with the idea of bringing down the colon and forming a new tract. Personally, I am more in

favor of trying chemotherapy with sulfanilamide or one of its derivatives to see if one cannot first clear up the acute inflammation and secondary infection. This patient is the youngest I have seen presenting the anorectal syndrome of lymphogranuloma venereum.

DR. GEORGE CURTIS: I should like to ask two questions. First, what are the results of chemotherapy with sulfanilamide or a derivative in this disease? Secondly, if the therapy gives results that are good, is it mainly due to the fact that it clears up the secondary infection or does it clear up the sinuses as well?

DR. J. E. RAUSCHKOLB: Such therapy tends to clear up the secondary infection and also has a beneficial effect on the disease. This is particularly true of the disease seen in men.

DR. J. R. DRIVER: Surgeons at the City Hospital have performed colostomies in several cases of this kind. In all the disease has been far advanced. As much of the diseased tissue as possible is removed. It has not been possible in any case to bring down the intestine and form a new rectum and anus. The colostomy opening is permanent. The advantages have been the healing of sinuses and the clearing up of secondary infection and discharge. In some instances actual extension of lymphogranuloma venereum into the colostomy opening has later been found.

In this comparatively early stage of the disease in a young person I hope to be able to control the disease, perform a colostomy, resect the diseased gut and eventually be able to close the colostomy opening.

Sarcoidosis. Presented by DR. E. B. HEISEL and DR. MAX E. KRAUSE.

A. G., a Negress aged 60, presented from the department of dermatology and syphilology and the department of tuberculosis, City Hospital, complains of a productive cough, an eruption on her legs and ankles and progressive weakness of five years' duration. She has been followed by members of the tuberculosis department of the hospital since October 1938.

Physical examination reveals a poorly nourished Negress. The right eye shows early cataract formation. The oral hygiene is poor, and the teeth are carious. The heart is normal. There is limited expansion of the right side of the chest. Above the fourth rib on the right side, anteriorly and posteriorly, there are dulness to percussion, increased vocal fremitus and tubular breath sounds, and in the apex fine rales can be heard. The vital capacity is 700 cc., or 30 per cent of normal. The abdomen is rounded and doughy, and the liver and spleen are palpable. On the legs, ankles and dorsa of the feet and toes there is a symmetric eruption, consisting of nonindurated, sharply circumscribed, dry, punched-out areas, varying in size and shape and covered with an adherent gray scale. Some of the lesions have healed, leaving atrophic scars, and others are going through the process of healing.

The urinalysis showed only a trace of albumin. The hemogram was normal. The value for total serum proteins was 9.1 mg., for serum albumin 3.0 mg. and for serum globulin 6.1 mg. per hundred cubic centimeters. The albumin-globulin ratio was 0.50. The concentration in the blood of calcium was 9.3 mg., of phosphorus 3.7 mg. and of phosphatase 13.2 mg. per hundred cubic centimeters. The serologic reaction of the blood for syphilis was negative. Intracutaneous tests with tuberculin (purified protein derivative) in the first strength gave a negative result and in the second strength a moderately positive reaction. A review of a long series of roentgenograms of the chest, beginning in October 1938, showed bilateral disease; the shadows were mostly conglomerate in the upper half of the right lung field and partially conglomerate in the left midlung field. In the last three roentgenograms, beginning in April 1941, there appeared an area of diminished density in the right apex, suggestive of cavitation. Otherwise, over the entire period there was no significant change. Roentgenograms of the hands showed no evidence of sarcoidosis. Examinations of sputum and of gastric contents repeatedly failed to show acid-fast organisms. A guinea pig inoculated with concentrated

sputum showed a negative cutaneous reaction to tuberculin six weeks after inoculation.

Histologic examination of sections of skin taken Oct. 17, 1940 and Nov. 18, 1941 at the edge of the punched-out areas showed hyperkeratosis and acanthosis. Over the indented area of one section there was a crust of thick, hyperkeratotic material in which there was a large amount of cellular debris, while the second section showed only hyperkeratosis. The epidermis in this area was atrophic. The dermis was the site of focal collections of epithelioid cells together with a few lymphocytes and a few Langhans giant cells. A section from a tonsil showed similar collections of epithelioid cells scattered throughout, surrounded by normal tonsillar elements. A special stain for acid-fast organisms of the section taken in November 1941 was negative.

DISCUSSION

DR. R. E. BARNEY: I favor a diagnosis of papulonecrotic tuberculid.

DR. H. J. PARKHURST, Toledo, Ohio: Clinically, I favor Dr. Barney's views, but I was surprised to find in the report that there was a histologic picture of sarcoid of the tonsil.

DR. E. B. HEISEL: The histologic picture of the skin at present and one year ago is the same as that of the tonsil.

DR. C. L. CUMMER: Do the hospital pathologists think these sections are typical of sarcoid?

DR. E. B. HEISEL: Yes.

DR. E. J. ARDAY: The section taken a year ago looked like one of typical tuberculosis to me. I thought there were typical tubercles present. I see no evidence of sarcoid. Dr. Michaelson at the last meeting of the American Academy of Dermatology and Syphilology said that he believes that sarcoid and tuberculosis can occur in the same patient at the same time.

DR. R. E. BARNEY: I want to emphasize that I have never encountered a case of sarcoidosis in which all the lesions have ulcerated. All the lesions were either scars or healing ulcerations and not clinically those of sarcoid.

DR. H. G. MISKJIAN: It is unfortunate to give the impression that this eruption can be a sarcoid. Nothing that has been described as sarcoid looks like this.

Scleroderma with Calcinosis. Presented by DR. MAX E. KRAUSE and DR. E. B. HEISEL.

N. B., a white woman aged 46, presented from the department of dermatology and syphilology and of medicine, City Hospital, complains of progressive muscular weakness, painful stiff joints, cold, tender extremities and "tightening of the skin" of five years' duration. She states that during the past fifteen years she has had numerous attacks of sinusitis and tonsillitis. She had infected teeth and acute phlebitis of the right leg following a miscarriage in 1925.

There are infiltration and hardening of the skin on the forehead and cheeks and around the mouth. Numerous telangiectases are present on the face. The skin over the entire body is thickened, with subcutaneous firmness and muscular tenderness. There are a brownish pigmentation of the backs of the hands and wrists and a shiny appearance of the upper part of the left arm. The fingers are tapering, livid, cold and stiff, and several have small ulcerations on the distal phalanx. There are calcareous deposits on the left buttock, in the right inguinal region, on the tips of several fingers and in the right thenar region. There is generalized muscular weakness, most pronounced in the extensor muscles of the lower extremities and in the shoulder girdle. Faradic stimulation showed Jolly's reaction, which is characteristic of muscular dystrophy and not nerve degeneration. Sensations are not altered. Just above the sternal notch the thyroid gland was palpable as a movable mass 4 cm. in diameter.

The hemogram and the urine were normal. Chemical examination of the blood showed 9.2 mg. of calcium, 4.7 mg. of phosphorus, 915 mg. of phosphatase, 138 mg. of cholesterol, 95 mg. of sugar (fasting) and 13 mg. of urea nitrogen per hundred cubic centimeters. The basal metabolic rate on Nov. 22, 1941 was + 30 per cent and on Nov. 27 + 35 per cent. Serologic reactions of the blood for syphilis were negative.

Roentgenograms of the chest showed no pulmonary changes. The trachea was displaced to the left, possibly because of the enlarged thyroid gland. Roentgenograms of the pelvis and left hip showed extensive areas of subcutaneous calcification but no evidence of bone or joint involvement.

Histologic examination of a section of skin removed from the left buttock showed normal epidermis and a mild perivascular round cell infiltrate in the dermis. There was also a small calcareous deposit at the center of the section. A deeper section taken from the same area showed a large calcareous deposit in the subcutaneous tissue. A specimen from the left gastrocnemius muscle showed separation of the muscle fibers by a fatty infiltrate, a round cell infiltrate, mostly perivascular, and arteriolar sclerosis. The infiltrate consisted largely of lymphocytes and plasma cells.

DISCUSSION

DR. E. W. NETHERTON: I agree with the diagnosis as presented. The similarity between scleroderma and dermatomyositis must always be kept in mind. However, I do not believe this patient has dermatomyositis.

Lichen Planus Atrophicus. Presented by DR. OTTO E. L. SCHMIDT.

A. W., a 64 year old white woman, complains of an asymptomatic eruption on the left breast for two years. The lesion started as a small, slightly pruritic, scaly spot on the medial portion of the left breast. She also has noted a white "scar" on the right knee for the past several months.

Otherwise she has always been well except for an infection of the right side of the upper jaw three years ago. Serologic reactions of the blood for syphilis were negative in 1924. Her husband died of dementia paralytica in 1923.

On the inner upper quadrant of the left breast there is a sharply bordered, polycyclic, plaquelike lesion, 6 by 4 cm. in area, whitish, having an atrophic, slightly scaly, shiny, parchment-like surface, with small horny plugs in the central portion. Similar but smaller lesions are present on the inner upper quadrant of the right breast, below the areolas on both breasts, over the left clavicle, in the umbilicus, on the right lower quadrant of the abdomen and on the right knee.

Histologic examination of tissue removed for biopsy showed that the stratum corneum was not thickened generally but that there were three small keratotic plugs in widened openings. The stratum granulosum was missing in several areas, and the stratum mucosum was thin, atrophic and without rete pegs. The basement membrane was intact. The corium was composed of strands and bundles of sclerotic collagenous fibers. There was a moderately intense round cell infiltrate in the midcorium and surrounding a sudoriferous gland.

Treatment has consisted of roentgenotherapy for a total of 450 r in eight treatments. There has been no appreciable change in the lesions.

DISCUSSION

DR. H. J. PARKHURST, Toledo, Ohio: I feel that this patient does not have atrophic lichen planus but rather that she has lichen sclerosus. She has the follicular plugging and the scleroderma-like feel of the skin, and I could find no lesions characteristic of lichen planus.

DR. J. R. DRIVER: My conception of atrophic lichen planus is that one may not find any typical lichen planus papules of the ordinary type. Follicular plugging is characteristic of the disease. The possibility of white spot disease was considered

but ruled out because of the large size of some of the lesions. Lichen sclerosus is a form of scleroderma.

DR. HUGO HECHT (by invitation): The difference between atrophic lichen planus and lichen sclerosus is debatable. I think this patient has atrophic lichen planus.

DR. R. E. BARNEY: The linear distribution of the lesions on the neck and under the breast favor lichen planus. However, I do not see any typical lichen planus papules.

DR. C. G. LAROCCO: I thought the disease was circumscribed scleroderma because of the parchment-like surface.

DR. I. L. SCHONBERG: The band of infiltrate was in the upper portion of the corium. There was a narrow space of connective tissue between it and the basement membrane. This probably accounts for the atrophic appearance of the lesion. I believe the histologic picture is characteristic of lichen planus atrophicus.

A Case for Diagnosis. Presented by DR. MAX E. KRAUSE and DR. E. B. HEISEL.

V. A., a white man aged 59, presented from the department of dermatology and syphilology, City Hospital, complains of an asymptomatic cutaneous eruption of several weeks' duration. He has been receiving treatment since 1932 for syphilis of the central nervous system, his last treatment, an injection of a bismuth compound, being given on April 30, 1941.

There is a bilateral, symmetric, brownish erythematosquamous eruption on the upper and lower extremities. There is a predilection for the dorsa of the feet, the knees and the elbows. The eruption consists of well delimited oval to round macular areas, varying in diameter from 2 to 15 cm. and covered with thin, furfuraceous-like scales. The scalp has several areas covered with dry, flaky grayish scales. The nail plates present definite punctate pitting.

The hemogram and the urine were normal. Serologic reactions of the blood for syphilis on Nov. 12, 1941 were moderately positive. Examination of the cerebrospinal fluid on Jan. 14, 1941 showed 2 cells per cubic millimeter, a negative Pandy reaction, a low first zone gum mastic curve and a moderately positive Wassermann reaction.

Histologic examination of a section showed mild hyperkeratosis and moderate parakeratosis. The rete pegs were almost entirely absent. Throughout the dermis, especially in the subepidermal area, there were perivascular focal collections of round cells. In one area the infiltrate pierced the epidermis, and a collection of round cells was seen in the stratum corneum.

DISCUSSION

DR. E. W. NETHERTON: I believe that an eruption due to bismuth is probable in this case. The eruption is not as dark as some I have seen. I think the pitting of the nails is a nutritional change. A spectroscopic examination of some of the involved tissue should be made before a definite diagnosis can be made.

DR. H. J. PARKHURST, Toledo, Ohio: I believe that there is atrophy in some of the patches about the knees and elbows and that the patient might have acrodermatitis atrophicans chronica undergoing involution. Clinically and histologically there is the possibility of this, but one cannot, of course, exclude the possibility of a dermatitis from bismuth.

DR. F. M. MCDONALD, Akron, Ohio: I suggest that after the investigation Dr. Netherton suggested is done, it would be interesting to perform a biophotometric test for vitamin A deficiency. I should like to see what would happen without local therapy and with the giving of vitamin A, 50,000 U.S.P. units daily, along with vitamin B complex.

A Case for Diagnosis. Presented by DR. GEORGE M. STROUD.

B. G., a 63 year old Negress, presented from the department of dermatology and syphilology, University Hospitals, complains of a growth in the mouth for five years. She has used snuff since childhood. Eight to ten injections in the arm were given in 1934 because of paraplegia.

On the right buccal surface extending onto the right lower alveolar ridge and then forward in the alveolar fold 2 cm. past the midline to the left, there is a firm, pinkish white papillomatous tumor. Posteriorly there is an especially prominent verrucous growth 2 by 1.5 cm. in size. On the alveolar ridge above and below there is an extensive opaque whitish thickening. The submaxillary lymph nodes and lingual salivary glands are slightly enlarged.

The Kline reaction of the blood was negative.

Histologic examination revealed hyperplasia and acanthosis of the epidermis. Some of the prickle cells were pleomorphic and had hyperchromatic nuclei.

DISCUSSION

DR. E. J. ARDAY: I should like to suggest a diagnosis of verruca or papilloma of the mucous membrane. My diagnosis is based on the fact that the epidermal hyperplasia in the microscopic section is resting on a membrane in which leukocytes can be found. An epithelioma will not do that.

DR. OTTO E. L. SCHMIDT: Walter Howarth (*J. Laryng. & Otol.* **50**:28, 1935; **52**:1, 1937) described cases of "precancerous epitheliomatosis" of the mucous membrane. The lesions consisted of extensive verrucous changes in the oral mucosa, and on histologic examination they showed bowenoid, or "pre-malignant," changes. On follow-up, it was noted that one or two lesions became epitheliomas. No treatment was advantageous. The present case is similar to Howarth's first case.

DR. H. G. MISKJIAN: I feel obliged to state that I agree with Dr. Arday. There is absolutely nothing malignant about the lesion in this case. In regard to the paper cited by Dr. Schmidt, I saw the articles and thought that the description did not agree with the colored plates that were shown. They were entirely different from Bowen's disease of the mouth. Here there is sufficient clinical evidence to differentiate the condition from Bowen's disease or epithelioma. There are individual lesions separated by practically normal areas of mucous membrane. They look exactly like the verrucae seen as surface lesions in condylomata acuminata. Clinically it is possible to state that the process is completely benign, and histologically it has been so proved.

C. G. LAROCCO, M.D., *President*

J. E. RAUSCHKOLB, M.D., *Secretary*

JAMES R. DRIVER, M.D., *Reporter*

Jan. 22, 1942

All the cases were presented by Dr. E. W. Netherton and Dr. George H. Curtis from the Department of Dermatology of the Cleveland Clinic.

Raynaud's Disease with Subcutaneous Calcium Deposition in the Fingers; Hereditary Multiple Telangiectases.

Miss G. H. C., aged 20, a clerk, complains of a progressive extension of red spots on the face, trunk and hands, which have been present for five years. For the same period she has been having frequent attacks of epistaxis. During the past four years she has been having attacks of blanching and pain followed by a

purple discoloration of the fingers brought on by exposure of the hands to cold weather and cold water. In addition, tender hard lumps appear from time to time on the finger tips or anywhere in the palmar aspects of the distal phalanges. The lumps usually disappear after several weeks or months. At times the finger tips become raw and crusted, and on healing depressed scars form, covered with a tenacious crust.

The general physical examination shows no abnormalities. On the face, neck, upper part of the chest and back and palms and dorsa of the hands are numerous telangiectases, varying in size from that of a pinhead to 0.5 cm. in diameter. They blanch on diascopy. There are numerous telangiectases on the right side of the nasal septum.

The distal phalanges are narrowed toward the tips, where beneath the free edges of the nails are starlike depressed scars, some of which have a tenacious dirty-colored hyperkeratosis. The skin appears smooth and taut but is not hard or hidebound. The articular folds of the skin on the dorsa of the distal joints of some of the fingers have almost disappeared. On the distal phalanges of several fingers there are nodule-like indurated plaques varying in size from that of a split pea to that of a pea. The overlying skin has a purplish red tint within which may be seen yellowish white spots about the size of a pinhead. The color becomes more red at the periphery. The nodules are tender.

On being immersed in cold water the fingers blanch, and on being warmed they become purple and painful. Roentgenograms of the hands show cutaneous calcified deposits.

The urine and the hemogram were normal. The fasting blood sugar was 83 mg. per hundred cubic centimeters. The Wassermann and Kahn reactions of the blood were negative. The basal metabolic rate was —4 per cent.

Histologic examination of a telangiectatic macule from the palm showed at one end of the section many dilated and proliferating blood vessels in all layers of the corium. This was in contrast to the presence of only a small number of normal-appearing blood vessels in the corium at the other end of the section.

Histologic examination of a nodule from a finger tip showed the horny layer overlying the nodule at one end of the section to be greatly thickened and parakeratotic, and there were present globules of varying sizes of homogeneous-staining material. At the base of the thickened stratum corium there was a microabscess filled with leukocytes. The granular layer was absent. There was intercellular edema in the malpighian layer immediately beneath. The corium contained dilated blood vessels. In the deep part of the corium there was a large area of homogenization which had a blue-pink color. Immediately above there was a small area of similar material but staining more deeply blue.

DISCUSSION

DR. H. J. PARKHURST, Toledo, Ohio: I agree with the diagnoses as presented in this case.

Erythema Multiforme Cured by Cholecystectomy.

A. M., an unmarried woman aged 21, came to the clinic on Jan. 11, 1941. Her chief complaint was recurrent attacks of a bullous and crusting eruption involving the mucocutaneous surfaces of the lips of seven years' duration.

Seven years ago she had an acute pharyngitis accompanied by fever and enlarged, tender cervical lymph nodes. During this illness large bullae developed on the vermilion margins and mucous membrane of the lips. After that she had numerous recurrences. It usually required two to three weeks for the crusting which followed the rupture of the bullae to separate from the lips. During this time she suffered from general malaise, headache, nausea and vomiting. The interval between attacks varied from a day to two or three weeks. A year ago

she remained well for four months, but during the past year recurrences were more frequent and severe.

Besides the constitutional symptoms previously mentioned, she had pain in the upper right quadrant of the abdomen and in the bladder during each attack. At times urination was so painful that she did not void until it became absolutely necessary.

During the summer of 1939 she was treated at Mount Sinai hospital for pyelitis and lost 35 pounds (16 Kg.) in six weeks. Large doses of riboflavin, nicotinic acid, vitamin B complex and vitamins A and D were administered without benefit. An extensive investigation by means of endermal tests for protein allergy was made. Except for slightly positive reactions to the extract of house dust and chocolate, the tests gave negative results.

On Jan. 11, 1941 the vermilion margins of the lip were covered with thick gray adherent crusts. The mucous membrane of the lips and of the cheeks adjacent to the mouth was edematous and congested. The throat could not be observed. She was suffering from a severe headache and appeared to be ill. The temperature was 99.8 F. The pulse rate was 100 per minute. There were no other noteworthy physical findings. The hemogram was normal. Urinalyses showed the consistent presence of a faint trace of albumin. Cystoscopic examination gave normal results. The gastric contents withdrawn forty-five minutes after an Ewald test meal showed 15 degrees of free hydrochloric acid and 40 degrees of total acid. The gallbladder drainage showed cholesterol crystals and bile-stained pus in A, B and C bile. Cultures of the bile showed Staphylococcus albus and a nonhemolytic streptococcus. Undulant fever agglutination was positive in a titer of 1:80. Roentgenograms of the gastrointestinal tract showed a normally functioning gallbladder without calculi. The stomach and duodenum were normal.

During two periods of hospitalization, intensive vitamin therapy and administration of adequate amounts of sulfathiazole and sodium sulfapyridine failed to influence the frequency or severity of the attacks. Frequent gallbladder drainage was followed by slight improvement. An autogenous vaccine, made from a culture of the bile, when given by her family physician produced a focal reaction on the lips and caused a severe constitutional reaction which was accompanied by an erythema-multiforme-like eruption on the face, the neck and the upper portion of the trunk.

On June 14, 1941 a cholecystectomy was performed. At the time of operation the mucous membrane of the gallbladder appeared to be involved by a chronic low grade infection. A diagnosis of chronic cholecystitis was made by histologic examination of the tissue.

The postoperative course was uneventful. There has been no recurrence of bullae on the lips or in the mouth, and all systemic symptoms have disappeared. She has gained over 20 pounds (9 Kg.) and is now employed as a saleswoman.

Erythema Multiforme.

H. A., a married woman aged 52, was in good health up to January 1941. At that time she had all her teeth extracted and since then has had "sores" on the tongue, mucosa of the cheeks and lips. There have been periods of remission and exacerbation, but at no time has this condition completely disappeared. The patient has been under observation for the past nine months. During this time she has been observed when there were large ruptured bullae, surrounded by erythematous and edematous areolas, on the mucosa of the cheeks and lips. At other times there have been small herpetic or aphthous ulcers. During the past two months the mouth has been comparatively free of lesions, but at present the vermilion margins are crusted and scaly.

The hemogram and the urine were normal. Smears from lesions did not show fusiform bacilli. A blood culture was sterile. Gallbladder drainage showed bile-stained pus. Cultures of this material showed Staphylococcus albus and a nonhemolytic streptococcus.

Patch tests with material from her dentures gave negative results.

Treatment has consisted of administration of concentrated viosterol, nicotinic acid, riboflavin, vitamin B complex, neoarsphenamine and sulfathiazole. There has been little change which could be attributed to these remedies. At present the patient is receiving biweekly injections of autogenous vaccine made from a culture of the bile.

DISCUSSION OF CASES OF ERYTHEMA MULTIFORME

DR. I. L. SCHONBERG: I saw the first patient at the outpatient clinic at Mount Sinai in 1939, at which time she presented a picture similar to the present one. There would be recurrences of a severe vesicular and crusting cheilitis, and on removal of the crusts there would be a granulated surface. She was under our care a long time, during which she received various types of therapy, including roentgen rays and local applications. After the removal of the appendix the lips cleared up for five weeks.

DR. H. J. PARKHURST, Toledo, Ohio: I have seen some patients with dermatitis herpetiformis which cleared up after the removal of the gallbladder.

DR. E. W. NETHERTON: We want to thank Dr. Schonberg for the additional history. We had not known previously about the appendectomy. Several years ago I attended a meeting of the Chicago Dermatological Society at which a case like this was presented. Dr. E. L. McEwen later reported the autopsy observations in the same case (Erythema Multiforme, ARCH. DERMAT. & SYPH. **13**:331 [March] 1926). Our first patient gave a history of having acute septic sore throat, and her trouble started when she was 15 years of age. She had had repeated attacks.

The only focus of infection we could find was in the gallbladder. Dr. Ormsby discussed this type of case at a meeting of the Academy of Dermatology and Syphilology in New York and stated that in a patient with this disease, presenting lesions on the lips and mucous membranes, focal infections were usually the cause and that they sometimes responded to the administration of sulfanilamide or one of its derivatives. Our patient had sulfathiazole and sulfapyridine to the point of making her toxic, without improvement. The gallbladder was the most likely source of infection, and since its removal she has remained well.

Balanitis Xerotica Obliterans.

E. H., a white man aged 55, first noticed a small itchy smooth red area on the glans penis near the meatus in June 1941. The lesion has steadily enlarged until it has surrounded the meatus and involves the distal third of the glans penis. At about the same time the prepuce became gray and thickened and sclerotic, producing a partial phimosis. As the phimosis increased, superficial fissures developed in the sulcus of the glans. The portion of the glans penis adjacent to the original lesion became white and shiny.

The sclerotic prepuce was removed by a recent circumcision. At present there is a well demarcated, brownish red, noninfiltrated, noninflammatory, parchment-like plaque, 1.5 by 2 cm., surrounding the urethral meatus. Surrounding it there is a white atrophic zone about 1 cm. in diameter. The change in this zone is similar to that which occurred in the prepuce.

Histologic examination of the prepuce showed hyperkeratosis, thinning and flattening of the epidermis and hyalinization of the papillae and upper part of the corium. In the deep part of the corium the hyalinized material fades into normal-appearing subcutaneous tissue. In the corium and subcutaneous tissue the blood vessels are dilated.

DISCUSSION

DR. E. W. NETHERTON: We have presented this case chiefly because of the rapid development of the disease.

Oil Acne.

C. R. D., a white man aged 33, came to the clinic on Aug. 26, 1941, presenting an eruption on the dorsa of the forearms, around the waist and on the anterior surfaces of the thighs which had been present for the previous six months. Six weeks ago painful inflammatory nodules and pustules began to appear in the involved areas.

For the past year and a half the patient has been employed as a thread grinder. A heavy grinding oil is sprayed under pressure on the cutting surfaces. The atmosphere in which the patient works is saturated with oil, soaking his clothes. It is necessary that he work at the machine with his shirt sleeves rolled up. Several other men working at the same type of machine have similar eruptions.

On the dorsa of the forearms and the anterior surfaces of the thighs and around the waist there are numerous black comedos, inflammatory papules and nodules. Comedos are in the center of many of the papules and nodules. On the face and back are scars, comedos and papules of acne vulgaris.

The following treatment was administered: (1) protection from oil by having the patient wear a heavy chemist's apron and sleeve guards made from a material impervious to oil; (2) application of an ointment containing 10 per cent benzoyl peroxide and 0.5 per cent chlorhydroxyquinoline, and (3) low voltage, unfiltered roentgen therapy.

The eruption improved under this treatment, but his employer decided to put the patient on a "dry" job so that he would not come in contact with oil and grease.

DISCUSSION

DR. B. F. BARNEY, Columbus, Ohio: I do not believe this condition should be described as acne. It is essentially a folliculitis due to oil and has no relation to acne vulgaris. It is common in industrial plants. Contaminated oil is the usual cause; it should be sterilized periodically by boiling.

DR. C. L. BASKIN, Akron, Ohio: I have seen this condition in a number of men lining puncture-proof gas tanks. Cleanliness is the chief prophylactic measure. Soap and water removes the causative agent and prevents its retention in the pores of the skin. I have found that daily bathing and clean underwear daily is all that is needed to prevent the disease I have been seeing.

DR. J. R. DRIVER: Persons with normally oily skins and young persons with acne are more susceptible to this condition. As Dr. Baskin pointed out, cleanliness is the best prophylaxis. In many plants it is extremely difficult to get the cooperation of the workers. I know of some industrial plants that actually pay the workers to take shower baths after they finish the day's work. I do not believe contaminated oil is the sole cause.

DR. E. W. NETHERTON: I was interested in what Dr. Barney had to say. In cases of this kind there often are numerous comedos which do not show follicular changes as in cases of acute folliculitis. As far as the term oil acne is concerned, it is used in most textbooks. The comedos in oil acne produce a foreign body reaction, which is followed by secondary pyogenic infection, which results in the formation of papulopustular lesions. The patients recover slowly even if they are changed to other types of work.

DR. H. A. HAYNES JR., Akron, Ohio: A moderate degree of success in preventing oil acne can be obtained by using vegetable oils. Olive oil or cotton seed oil is rubbed into the exposed parts before the patient goes to work.

DR. C. L. CUMMER: The problem of oil acne is complicated. Cutting oils contain fine metallic particles, which lodge in the pilosebaceous openings. Protective clothing and protective applications are of value, but in many instances it is necessary for the patient to change work in order to prevent contact with oils.

DR. B. F. BARNEY, Columbus, Ohio: In true cases of oil acne there is dirt in the follicles and true comedos are not present. If the cutting oil has a kerosene base, protective creams are of little value. I agree that clean clothing and cleanliness of the skin are of prime importance.

Meralgia Paraesthetica.

J. B., aged 53, a fireman, complains of a tingling, burning and numb sensation on the anterior surface of the left thigh. Six years ago the subjective symptoms were localized to a small area in the middle third of the thigh, but some time later a complete remission occurred. About three years ago the symptoms recurred and are paroxysmal. When he stands straight and walks the symptoms are prominent and when he sits, stoops or stands in a relaxed position the symptoms are absent. He can produce the symptoms at will by extending the thigh at the hip joint or tensing the thigh while standing. There has never been an eruption on the skin in the affected area.

The neurologic examination showed an indefinitely outlined area about 10 by 15 cm. on the anterolateral aspect of the left thigh in which there was a slight diminution in sensation of light touch and pain. All examinations to discover a central or peripheral lesion gave negative results.

The hemogram and the urine were normal. The Wassermann and Kahn reactions of the blood were negative. The fasting blood sugar was 83 mg. per hundred cubic centimeters.

DISCUSSION

DR. GEORGE H. CURTIS: J. C. White (*J. Cutan Dis.* **24**:160, 1906) called attention to this disease which affects only the external femoral cutaneous nerve. The symptoms are hyperesthesia or anesthesia and sensation of pain, numbness or formication. The neuritis is probably caused by pressure or tension from the overlying fascia. If the symptoms are severe, severance of the nerve is effective.

Blastomycosis.

E. M. P., aged 60, a groceryman and farmer, noticed two small pimples on his forehead in June 1941. During the next month other lesions appeared on the sides of the face, under the chin, on the right arm and on the left knee. The last lesion to appear is on the upper part of the back. They are painless, bleed easily and are increasing in size. The patient states that he has not taken any bromine-containing drugs. He had gonorrhea twenty years ago but says he never had a chancre.

The general physical examination showed no abnormalities. On the forehead, in the temple regions, on the sides of the face and under the chin there are inflammatory papillomatous infiltrated patches 1 to 2 inches (2.5 to 5 cm.) in diameter. They are rounded with sharply demarcated almost vertical margins about 0.5 cm. in height. The surface is flat and covered by loosely adherent thick crusts. There are numerous small pinhead-sized abscesses at the margins of the lesions. On removal of the crusts the surface bleeds easily and has a cribriform vegetating and granulomatous base covered with a purulent exudate. There are lesions of the same type on the back, left knee and right elbow.

The hemogram and the urine were normal. The fasting blood sugar was 119 mg. per hundred cubic centimeters. A plasma bromide determination gave negative results. Potassium hydroxide preparations of the pus showed numerous double-contoured highly refractile budding organisms. Cultures showed pure growths of blastomycetes. A roentgenogram of the chest was normal. Hairs from lesions did not contain spores or mycelia.

Histologic examination showed that the surface of the epidermis was covered with a thick layer of parakeratotic cells, containing small areas of blood and pus. The interpapillary pegs were elongated and widened. There were a few small intraepidermal abscesses. The upper two thirds of the corium showed a dense cellular infiltration consisting of lymphocytes, polymorphonuclear leukocytes and epithelioid cells. There were small areas of tuberculoid infiltration with giant cells. Scattered throughout the upper portion of the corium there were small abscesses surrounded by acanthotic epidermis. There were yeastlike bodies with

double refractile capsules within one microscopic abscess. No budding forms were observed in the tissue.

The therapeutic response to the intravenous administration of sodium iodide and roentgenotherapy has been satisfactory.

Pyoderma Gangraenosum.

M. B., a youth aged 20, entered the hospital on Jan. 6, 1941. His chief complaints were chills, fever and cloudy urine. He had had poliomyelitis in 1937, which had resulted in a partial neurogenic bladder and some weakness and atrophy of the muscles of the right shoulder.

The present illness started on Aug. 1, 1940, with an attack of dysuria accompanied by hematuria. Since then he has had numerous attacks of chills and fever, with a temperature up to 104 F., which last for twenty-four hours. Early in his illness a retention of urine made catheterization necessary.

Physical examination in January 1941 showed nothing abnormal. Cystoscopic examination showed diffuse cystitis, with leukoplakia on the posterior wall of the bladder. There was an extrinsic mass, thought to be a seminal vesicle cyst, encroaching on the bladder in the region of the left ureteral orifice. There was retention of 50 cc. of purulent urine in the left kidney. A left ureteronephrectomy was advised.

He returned to the hospital on March 18 for operation. This was delayed because of an eruption, which had been present for a month. The initial lesion was a small "boil" located near the angle of the left side of the lower jaw. This lesion enlarged and became crusted, and shortly numerous small tense pustules appeared near its periphery. In a few days similar lesions developed on the scrotum, arms and legs. They were follicular papulopustules, which rapidly became ecthymiform. Within three weeks the whole body was covered with tense pustules of the type seen in impetigo of Bockhardt. Cultures of material from unruptured pustules consistently grew Staphylococcus albus.

The impetiginous eruption gradually cleared up, but the ecthymiform lesions have continued to enlarge, terminating in serpiginous phagedenic ulcers, involving large areas of the legs and arms. Cultures of material from the margins of the phagedenic ulcers showed only Staph. albus and a nonhemolytic streptococcus.

At present the patient is emaciated and there are large phagedenic ulcers on the legs and arms. There is a deep dissecting abscess in the right axillary region, which has opened near the angle of the left scapula, with the discharge of much foul pus. A few ulcers on the face and neck have healed leaving erythematous scars. Since March 1941 there has been a daily septic fever, with the temperature ranging from 99.5 to 103 F.

Blood cultures have been sterile. The hemogram has showed leukocytosis, with from 12,000 to 14,000 leukocytes. Urinalyses have shown a persistent pyuria.

Histologic examination of material obtained from the margin of a phagedenic ulcer on the right shoulder revealed the surface of the ulcer covered with cellular debris consisting mainly of disintegrating lymphocytes and leukocytes. Beneath this there was a layer of granulation tissue, which extended to the subcutaneous fat. There was a perivascular lymphocytic infiltration deep in the corium and in the subcutaneous tissue. There was some hyaline degeneration in the walls of some of the deep vessels. There was acanthosis of the epidermis at the margin of the ulcer.

Treatment has consisted of administration of sulfathiazole and sulfanilamide by mouth and topically, generalized ultraviolet irradiation, application of gentian violet, ammoniated mercury and bismuth tribromphenate and zinc peroxide, injections of staphylococcus bacteriophage and blood transfusions. Vitamins A and D were also given. There has been no favorable response to treatment.

DISCUSSION

DR. J. R. DRIVER: Cases of this condition associated with ulcerative colitis have been described. The lack of response to sulfanilamide and sulfathiazole in the case presented today is disappointing.

Monocytic Leukemia with Oral Lesions.

M. W., a girl aged 19, unmarried, during the past eight years has had frequent attacks of diarrhea. The stools frequently contained mucus and pus.

In June 1941 the intestinal symptoms became more severe and she began to lose weight and strength. At about this time the gums began to thicken and become painful. Early in September 1941 an ulcer appeared on the left margin of the hard palate. One week later the anterior cervical lymph nodes became enlarged and tender and she began to have intermittent fever. She was admitted to the hospital on November 1.

Physical examination showed no noteworthy abnormality other than the oral lesions. The breath was fetid. There was a large tumor mass on the left side of the hard palate. The center of this mass was necrotic. The gums were so hypertrophic and swollen that many of the teeth were hardly visible. The left cheek was swollen and tender. The lymph nodes in the neck, axillas and inguinal regions were palpable. The spleen was not palpable.

At present the tumor mass and ulcer of the palate have partially disappeared. The breath is not fetid, but the gums remain hypertrophic.

On November 1 the hemogram showed 2,970,000 erythrocytes, 7.5 Gm. of hemoglobin per hundred cubic centimeters and 26,150 leukocytes, with a differential count of 14 per cent polymorphonuclear leukocytes, 8 per cent lymphocytes and 55 per cent monocytes. On November 25 the leukocyte count was 1,900, with 18 per cent polymorphonuclear leukocytes, 62 per cent lymphocytes and 11 per cent monocytes. On Jan. 16, 1942 the erythrocyte count was 3,340,000, the hemoglobin amounted to 8.5 Gm. per hundred cubic centimeters and the leukocyte count was 48,500, with a differential count of 17 per cent polymorphonuclear leukocytes, 8 per cent lymphocytes, 7 per cent monocytes and 36 per cent fragile leukocytes. The urine was normal. Serologic reactions of the blood for syphilis were negative. The stools showed the presence of blood on gross inspection.

Cheilitis of Undetermined Cause.

L. N., a Jewish boy aged 15, came to the clinic on Nov. 11, 1941, complaining of sore lips for the previous year and a half. The condition has been present continuously but with partial remissions and exacerbations. The latter occur every two to three days, but there is no progression or extension of the eruption. Exacerbations are characterized by increased burning and itching, swelling, redness and moisture. They occur usually after breakfast. For at least a year his diet has been high in vegetables, fruits and meats and low in starches, sweets and fats. Throughout the past year he has been taking large amounts of nicotinic acid, riboflavin, vitamin B complex, brewers' yeast and dilute hydrochloric acid, and liver extract has been administered orally and parenterally. He states that he has not taken any drugs except an occasional acetylsalicylic acid tablet for headaches. Repeated questioning and the elimination of possible contact allergens have given negative results. His mother believes that during the past year he has been more easily fatigued, has lacked energy and has deteriorated mentally.

He had had infantile eczema, and every summer since infancy he has had a dermatitis in the cubital or popliteal spaces lasting a few weeks. He has had no other manifestations of atopy.

The results of general physical and neurologic examinations were esssentially normal. An otolaryngologic examination showed a possible allergic rhinitis and chronically infected tonsils. A dental examination showed the teeth to be normal.

The dermatosis is limited to the vermilion margin of the lips, the mucocutaneous junction and an irregular band of the contiguous skin varying in width from 3 to 7 mm. on the upper lip and from 2 to 4 mm. on the lower lip. The dermatitis is more prominent on the upper lip. On the vermilion surface of each lip the eruption stops abruptly at the line between the moist and dry surfaces. About 3 cm. from the right commissure there is an oval, slightly scaly, erythematous plaque, at the periphery of which are several pinhead-sized maculopapules. There

are no dilated glandular orifices, and the lips are never sealed together during an exacerbation. The patient continuously stretches his lips because they feel tight and uncomfortable, but he does not lick them. During a partial remission the vermilion borders are dry and slightly fissured and the dermatitis on the cutaneous surface is dull pale red and scaly. The minute fissures with thin but tenacious scales gives an appearance of gross wrinkling.

There are no lesions of atopic or seborrheic dermatitis anywhere on the cutaneous surface at present.

The hemogram and the urine were normal. The Wassermann and Kahn reactions of the blood were negative. The basal metabolic rate was —7 per cent.

Six weekly roentgen treatments of 75 r each produced about 50 per cent improvement, but within two weeks after this therapy was discontinued the condition relapsed.

There has been a slow but continued improvement since tonsillectomy was performed, on Dec. 23, 1941.

DISCUSSION

DR. B. F. BARNEY, Columbus, Ohio: I suggest a diagnosis of atopic eczema instead of cheilitis. I have had a similar case.

DR. H. J. PARKHURST, Toledo, Ohio: I think the possibility of a contact dermatitis has to be considered. I mentioned tooth brush handles to the boy, and he said that tests had been made with that material and also with dentifrices and other substances. It occurs to me that he might be drinking from a plastic cup and that material might be irritating.

DR. HUGO HECHT (by invitation): I think this condition is caused by sputum running down over the lips at night. I suggest that olive oil be applied.

DR. J. R. DRIVER: Does this boy have a habit of licking his lips? Irritations about the mouth are sometimes caused by this habit.

DR. GEORGE H. CURTIS: I should like to answer Dr. Parkhurst. The boy has been given patch tests with brush scraping, bristles, tooth paste, pencils, erasers and everything I could think of that he could get in his mouth and, in addition, everything the patient could think of. The results of all the patch tests were negative. As to Dr. Driver's question, I have observed the patient carefully and I do not believe he licks his lips. In answer to Dr. Barney, the boy does give a history of atopic eczema, and he gets a little eczema about his elbows. Of course, the usual treatment for atopic eczema is roentgen rays. He responded to this treatment, but two weeks afterward the condition came back.

MANHATTAN DERMATOLOGIC SOCIETY

DAVID L. SATENSTEIN, M.D., *President*

ANTHONY C. CIPOLLARO, M.D., *Secretary*

March 11, 1942

Cutaneous Manifestations in Hodgkin's Disease? Presented by DR. J. FRANK FRASER.

A. G. L., a white man aged 65, first noticed a swelling on the left side of the neck in 1938. He consulted Dr. A. S. Warriner, Hempstead, N. Y., who made a clinical diagnosis of Hodgkin's disease. The patient was referred to Dr. N. H. Robin for irradiation. Three separate series of high voltage roentgen ray treatments were directed to the left side of the neck and the supraclavicular area. Between Sept. 12, 1938 and October 3 a total dosage of 600 r was administered. The second series to the same area was administered one year later and was completed on Sept. 25, 1939. At this time 45 r was given. The third series

was started on Nov. 11, 1940 and completed on December 12, and in this series 450 was given. Response to the radiation treatment was prompt, and the patient remained symptom free until January 1941, when he began to have generalized pruritus. He consulted a general practitioner for relief of the itching, who treated him with salves for several months without beneficial results.

I saw the patient for the first time in June 1941. His only complaint at that time was severe generalized itching. Examination revealed a group of lymph nodes up to 1 cm. in diameter in the left posterior cervical chain. There were palpable nodes in the axillas and groins, but they were not larger than nodes frequently found in normal persons. The liver could barely be felt, and the spleen was not palpable.

I suggested that he enter the Memorial Hospital for the Treatment of Cancer and Allied Diseases, but he said he would have to postpone hospital treatment for several months. In the meantime I gave him several low voltage roentgen ray treatments, which did not relieve his pruritus. He finally consented to go to the clinic of the hospital, where under the direction of Dr. Craver he received irradiation to the left cervical region with the following factors: 250 kilovolts, 50 cm. target-skin distance and 200 r every other day for a total of 1,600 r. He received a similar course to the spleen. On December 4 examination showed no significant adenopathy or enlargement of the spleen and liver.

The present eruption appeared six weeks ago (about Feb. 19, 1942) on the back, chest and shins. The lesions are round and oval reddened scaly areas with well defined borders, measuring 1 to 3 cm. by 5 cm. About February 26 a nodule about 1.5 cm. in diameter appeared in the right submaxillary region. It was closely attached to the skin and caused no itching or pain. Microscopic examination proved this lesion to be a squamous cell epidermoid carcinoma, grade 1.

A biopsy was performed on the original lesion of the neck, but a histologic diagnosis was not made at the hospital. A section was sent to me, and I reported lymphosarcoma. Dr. Stewart's impression was Hodgkin's disease, but the sections were technically unsatisfactory. Dr. Richter favored the diagnosis of lymphosarcoma but would not exclude Hodgkin's disease. Dr. Klemperer would not commit himself to a definite histologic diagnosis. Sections from the cutaneous lesions showed only a nonspecific inflammatory process. All other laboratory tests, including direct and cultural investigations for fungi, gave negative results.

DISCUSSION

DR. GEORGE M. MACKEE: The case may well be one of Hodgkin's disease with cutaneous manifestations; in fact, that is the probable diagnosis, but the eruption does not resemble cutaneous lesions of Hodgkin's disease. The configuration and infiltration are more suggestive of mycosis fungoides.

DR. E. WILLIAM ABRAMOWITZ: Clinically this disease is mycosis fungoides. The eruption may be an eczematous toxic eruption associated with Hodgkin's disease.

DR. WILBERT SACHS: I believe that this epithelioma has been present much longer than one and a half weeks. In the section there is an infected follicle from the wall of which the neoplasm probably arises. This lesion is entirely different from the others.

DR. SAMUEL PECK: It is my impression that the patient has mycosis fungoides. Itching may be a forerunner of any cutaneous manifestation of Hodgkin's disease, and eczematoid changes, if any, are secondary to scratching and rubbing. The eosinophils in the blood are greatly increased. When cutaneous manifestations develop, one should be able to find evidence of Hodgkin's disease either in the mediastinum or in the glands.

DR. FRED WISE: I am in agreement with those who believe that this type of eruption occurs infrequently in Hodgkin's disease. It may be a manifestation of early mycosis fungoides. It is not a separate disease of the skin but is a part of the constitutional disease from which the patient is suffering.

DR. J. FRANK FRASER: The disease described by Hodgkin over a hundred years ago is not the same as Hodgkin's disease as it is known today. Of the 7 cases described by Hodgkin, 5 were either lymphosarcoma or tuberculosis. The diagnosis of present day Hodgkin's disease is a histologic one. No definite histologic diagnosis has been made in this case. The disease belongs in the lymphoblastoma group, but which one? I disagree with the members who called it mycosis fungoides. The initial lesion of mycosis fungoides is always in the skin, and adenopathy is a secondary feature and often a late one. The initial lesion in this case was in the lymph nodes, and the cutaneous lesions are secondary. The clinical course favors the diagnosis of Hodgkin's disease, although the microscopic picture, in my opinion, is more suggestive of lymphosarcoma.

(1) Melanoderma; (2) Acneform Eruption (Tar?). Presented by DR. GEORGE M. LEWIS.

J. B., a man aged 31, ten months ago began to work for a company making conduit pipes used to carry electric wires. His work consisted of handling and loading pipes and later unloading them for storage. One month after he began work, an eruption appeared on the abdomen and gradually spread over the surface of the skin. He soon noticed, in common with many other workmen, that his skin became pigmented (a yellowish brown), particularly the exposed parts. Like the majority of the other workmen, he was unable to expose himself to a mild amount of the sun's rays without having an irritative sensation and sunburn. During a windy day there is a considerable amount of dust and pigment in the air where he is working. The pipes are said to be made of a composite material containing such substances as tar and pitch.

Examination shows a blotchy yellowish brown pigmentation of the face and hands. There is a widespread acneform eruption affecting the face, chest, back, extremities and penis. The lesions consist of comedos, papules and pustules. Many of the larger lesions are present on the abdomen, where the pipe rubs during his work. Some of the lesions are painful.

DISCUSSION

DR. E. WILLIAM ABRAMOWITZ: It is interesting to note that he carries the pipes on the flexor surfaces of the arms, where the maximum amount of pressure is exerted, and yet there are comparatively few lesions in these areas.

DR. WILBERT SACHS: The general picture, the color, the cyanosis and this type of chronic lesion might fit in with the diagnosis of polycythemia vera. A blood count is necessary.

DR. SAMUEL PECK: The pigmentation produced by tar is due in part to an associated light sensitivity. That is why it is most prominent on exposed parts. While it is true that oil and tar acne is most evident on parts of the body most commonly in contact with these substances, similar manifestations can be seen at a distance because of the absorption of the particular chemical substance responsible for the cutaneous changes.

DR. GEORGE M. MACKEE: I should hesitate to call the case one of melanoderma as that term is usually used. The history and clinical picture would seem to suggest an acneform eruption caused by lack of sanitation and by materials used in his vocation with accompanying or subsequent pigmentation. An acneform eruption caused by iodine or bromine should be ruled out as completely as possible.

DR. JACK WOLF: I think that the reason for the presence of acne on the back and not on the arms and forearms is probably due to the fact that acne will develop in seborrheic areas regardless of the method whereby a person is exposed to the causal agent. In view of the fact that he is exposed to pitch and similar substances, I wonder if the melanoderma can be classified as a form of Riehl's melanosis.

DR. HERMAN SHARLIT: I always had the impression that the explanation for the severity of the lesions on the trunk as compared with those on the extremities is that these tars impregnate the clothes so that there is more contact of the tar with the sweat, and as a result the trunk gets a larger dose of it. Furthermore, the workers wash their hands and arms during the day and cannot wash the trunk as frequently.

DR. ISADORE ROSEN: I agree with those who think that the lesions are due entirely to tar. On account of the extent of the eruption, I am of the opinion the tar has reached the skin through inhalation and the blood stream.

DR. DAVID BLOOM: I assume that many more workers in this plant are affected in the same way. I should like, therefore, to know if and what hygienic precautions are taken in order to prevent the effects of tar.

DR. GEORGE M. LEWIS: The patient wears heavy clothes at work and so protects his forearms to some degree. However, his clothes become saturated with sooty material, and even his underwear becomes stained. The contact with tar and friction explains somewhat the furuncular lesions on his abdomen. There is no doubt an effect due to the hematogenous distribution of the material. No history was obtained of bromide or iodide ingestion. A blood count has not been done as yet, but in another patient with a similar eruption the blood was normal. In answer to Dr. Wolf, it would seem probable that this disease falls into the group described by Riehl and others, and, while there is no evidence of a dietary deficiency, there is some question whether the disease in Riehl's cases was dietary in origin. Since this patient stopped working there has been a partial fading of the pigmentation of the exposed skin.

A Case for Diagnosis (Lichen Planus with Pigmentation? Erythema Multiforme Bullosum? Dermatitis Herpetiformis?). Presented by DR. JACK WOLF.

F. G., a man aged 30, in the armed forces of the United States, was referred to the New York Skin and Cancer Hospital in November 1941. At that time he presented an eruption of ten months' duration which had followed the second routine inoculation with typhoid vaccine. The eruption was bullous, widespread and severe. He had been hospitalized during the entire period. Since the onset bullae have continued to appear except during three short periods when he took solution of potassium arsenite U. S. P. Each time the administration of arsenic was stopped bullae reappeared. A biopsy of a specimen from a bullous lesion, made at Walter Reed General Hospital, Washington, D. C., showed a histologic picture compatible with dermatitis herpetiformis.

Now he presents only the remains of an eruption in the form of dark brown pigmented macules varying from nummular spots to large plaques. In addition, he presents typical lichen planus papules on the wrists, dorsal aspects of the hands and genitalia. To the best of the patient's knowledge the lichen planus eruption has been present for about three weeks.

Histologic examination of tissue removed from a pigmented area revealed a superficial exudative process. Potassium iodide and bromide tests have elicited alternately negative and mildly positive reactions.

DISCUSSION

DR. J. FRANK FRASER: In all the cases of so-called lichenoid arsenical dermatitis which I have examined the histologic picture was that of lichen planus. This brings up the question of the causative relation between arsenic and lichen planus. Does the administration of arsenic excite the latent cause of lichen planus to pathogenicity?

DR. ISADORE ROSEN: There is no question in my mind but what the patient has lesions on the wrist that would be considered clinically as typical lichen planus. The generalized pigmentation indicated that there had been an extensive

bullous eruption, and the fact that this followed two or three days after an inoculation with typhoid vaccine would suggest that the latter was responsible for the eruption. This would lead one to suspect that the eruption was bullous erythema multiforme rather than Duhring's disease. The patient had received solution of potassium arsenite U. S. P. over a long period, and it is possible that the lichen planus and the palmar and plantar lesions are all due to arsenic.

DR. GEORGE M. LEWIS: It is impossible to do more than speculate regarding the original eruption. Because so far the lesions are typically those of lichen planus, I favor a diagnosis of lichen-planus-like eruption due to arsenic.

DR. GEORGE M. MACKEE: The patient did not receive arsenic until after he had had the eruption. It is conceivable that the original eruption was dermatitis herpetiformis and that the pigmentation and the present eruption were caused by arsenic. It is also possible that pigmentation was caused by dermatitis herpetiformis. However, the distribution is not typical for this disease. There are umbilicated, polygonal, violaceous lichen planus papules. In the absence of inconclusive evidence of arsenical lichenoid dermatitis and pigmentation, I favor a diagnosis of vesicular and papular lichen planus from the beginning.

DR. SAMUEL PECK: I agree with Dr. MacKee. It was my impression that the eruption improved after the patient had received arsenic. If this is correct, then the condition is not a lichenoid eruption following arsenic but might be a bullous lichen planus which responded rapidly to arsenical therapy. What is seen now is a combination of the end stage of lichen planus and an increased pigmentation due to the arsenic.

DR. WILBERT SACHS: I see nothing that would warrant the diagnosis of Duhring's disease. However, one cannot neglect the pathologic picture. There are two types of lesions that may be caused by arsenic which give a microscopic picture of lichen planus. One is a macular lesion which may be any size or shape, and the other is the typical papule of lichen planus.

DR. GEORGE C. ANDREWS: I am in accord with Dr. MacKee and those who think that this case is one of lichen planus and that the original bullous eruption was bullous lichen planus, although it is extremely rare to get an entirely bullous eruption in lichen planus. However, I am guessing at what the original eruption was. I do not know that it was a purely bullous eruption. There might have been bullae and lichen planus papules. I believe that the pigmentation is more characteristic of lichen planus than it is of dermatitis herpetiformis, because there is no exaggeration of the pigmentation over the shoulders and sacral region.

DR. E. WILLIAM ABRAMOWITZ: Dr. Bush at Walter Reed General Hospital, Washington, D. C., reported that a biopsy showed dermatitis herpetiformis. Furthermore, he found a high eosinophilia in the blood and 30 per cent eosinophils in the bullous content of the lesions. There is a little confusion about the patient's taking arsenic. First he said he took it recently, and then he said he took it once before. When he undressed I saw the profuse pigmented lesions on the trunk and lichen-planus-like lesions on the wrists and penis. Dr. Jessner made a potassium bromide and iodide test, and he said that there was a positive reaction on the healed lesions. Now, the question comes up whether the patient has dermatitis herpetiformis with a lichen-planus-like eruption from arsenic or whether he has had a bullous lichen planus from the start, now showing the usual lichen planus papules only. Dr. Rosen brought up the point that one does not usually see patients with dermatitis herpetiformis who do not have some active lesions of the disease. In view of the biopsy report, the eosinophilia, the positive reaction to a patch test with iodides and the history of arsenic medication, I agree with the opinion that the patient had dermatitis herpetiformis and now presents lichen planus due to arsenic medication. The treatment now should be a high carbohydrate diet plus injections of liver extract.

DR. DAVID BLOOM: I have never seen inorganic arsenic preparations like solution of potassium arsenite U. S. P. produce lichen-planus-like eruptions. I should like to be informed if such by-effects are reported.

DR. FRED WISE: I have not seen lichen planus eruptions due to arsenic given in the form of solution of potassium arsenite U. S. P. Plenty of cases of pigmentation and arsenical keratoses are encountered, but eruptions of lichen planus resulting from oral administration of arsenicals must be very rare.

DR. JACK WOLF: In reconsideration, I should be inclined toward a diagnosis of erythema multiforme bullosum resulting from the injection of typhoid vaccine. The lichen planus may have been caused by solution of potassium arsenite U. S. P. I think that lichen planus following treatment with inorganic arsenical compounds has been reported. If the lichen planus is not due to arsenic it may be coincidental.

Chronic Benign Familial Pemphigus. Presented by DR. J. FRANK FRASER.

R. U., a man aged 30, was previously presented before the New York Dermatological Society on Feb. 24, 1942.

DISCUSSION

DR. GEORGE C. ANDREWS: I agree with the diagnosis as presented. This disease seems to have a predilection for the sides of the neck and the axillas.

DR. SAMUEL PECK: Dr. Fraser's patient is not afflicted with Darier's disease. Bullous lesions are not seen in that condition. However, crusted, oozing eruptions are found in Darier's disease, especially during the summer months in areas where there are friction and a great deal of sweating. It is not uncommon to see erythematous moist patches covered with crusts and scales in the axillas and groins and under the breasts of women. Other parts of the body should still show typical hyperkeratotic papules. These can usually be found on the dorsa and palms of the hands. Histologically, from such patches, in spite of the presence of a great deal of edema, there is definite evidence of dyskeratosis. However, the picture of acantholysis without dyskeratosis is sometimes found in Darier's disease in patients overtreated with vitamin A. I have learned from the study of biopsy specimens taken at various intervals from patients with Darier's disease that no hard and fast rules about pathologic changes should be made from the study of any one section. As the patient is treated with vitamin A, the histologic structure changes. Such processes may occur in other diseases from time to time. One must consider the complete cause of the disease before a definite pathologic picture is given.

DR. GEORGE M. MACKEE: This patient seems to have a typical example of familial benign pemphigus. In spite of the fact that there is at times dyskeratosis resembling Darier's disease, it does not necessarily make it a variant of that disease. At present familial benign pemphigus appears to be a clinical entity.

DR. FRED WISE: I do not favor the name pemphigus in this eruption. I think pemphigoid is more appropriate. At least pemphigoid is certainly suggestive of the nature of the condition.

DR. J. FRANK FRASER: Some of the pathologists who have examined sections from previously reported cases thought that in some respects the microscopic picture resembled that of Darier's disease (dyskeratosis follicularis). I can see no such resemblance in this case, and neither can I make a histologic diagnosis of pemphigus.

A Case for Diagnosis (Erythroplasia?). Presented by DR. GEORGE M. MACKEE.

F. R. S., a white man aged 70, a retired protestant minister, born in the United States, is presented from the New York Skin and Cancer Hospital. His case has been investigated and he has been treated at Duke University, Durham, N. C., and by Dr. S. L. Whitehead, of Asheville, N. C., and by Dr. Joseph Elliott, of Charlotte, N. C. No diagnosis has been established, and treatment has been unsuccessful.

The patient's general health has always been excellent. Recent examinations of the urine and blood showed that they were normal. He has an inguinal hernia on the left side. There is no definite focus of infection, although he has not been thoroughly examined for a possible hidden focus.

So far as could be ascertained, the family history is irrelevant.

The eruption for which he is presented began on the scrotum ten or fifteen years ago. It has been slowly progressive, gradually spreading to the penis, pubic region and crural region. There have been no remissions and exacerbations and no disappearance of old lesions and formation of new ones. There have never been lesions on other parts of the body. The eruption has always been exudative and sharply marginated. There have never been any bullae or vesicles.

Fig. 1.—Case for diagnosis (erythroplasia?) sharp margin in the pubic and left crural regions, delicate rolled edge in the pubic region, infiltrated margin in the left crural region, exudation and erosion on the anterior surface of the scrotum and the under surface of the penis and vegetations near the base of the penis.

The patient has been under my observation since October 1941. In October there was an area of eruption that involved the entire shaft of the penis, the anterior surface of the scrotum, the pubic region and the left crural region. This area was red, moderately thickened, crusted and sharply marginated, and there were numerous vegetations. In the pubic region there was what looked like a delicate rolled edge. There was a profuse serous exudate in the center of the patch.

The eruption now is much the same as it was last October except that the rolled edge is less conspicuous, there are fewer vegetations, the exudation is at times less copious and there is no crusting. This slight improvement may be the result of rest and improved sanitation.

Repeated bacteriologic and mycologic examinations were negative for fungus and almost so for pathogenic bacteria. Occasionally staphylococcic (Staphylococcus aureus) and hemolytic streptococci were demonstrated. Donovan bodies were absent in tissue and smears. The Frei test elicited negative reactions with two antigens.

Tissue was removed from four different parts of the involved area: from the rolled edge in the pubic region, from the thickened edge in the left crural region, from a vegetative area at the base of the penis and from a freely exudative portion of the scrotum.

Fig. 2.—Extensive acanthosis, poor staining qualities, fissures and slight cellular infiltration (× 53).

A composite histologic description by Dr. Charles F. Sims is as follows:

Low power magnification showed that the epidermis was greatly and irregularly acanthotic. The surface was uneven and in part covered with a crust. The granular layer was for the most part absent. Throughout various parts of the epidermis there were numerous fissures or lacunas. The vessels in the upper and middle parts of the cutis were moderately dilated and congested. There was a moderate diffuse infiltration in the papillary and subpapillary zones.

High power magnification showed that the surface of the epidermis was covered in part by a crust and in part by closely packed parakeratotic lamellas. The cells of the granular layer were for the most part absent. The intraepidemic fissures or lacunas noted previously had the following characteristics: The fissures were irregular in outline and in many places suggested spongiosis or

vesicle formation. At several points rete cells extended across the fissures, their prickles stretched and broken so as to form a network with neighboring cells. Within the rete, particularly in the vicinity of the fissures, there were cells that were larger than the normal prickle cells. These cells had large nuclei with hyperchromatic intranuclear chromatin and one or more nucleoli. They varied somewhat in size, and some of them had lost their prickles. In many parts of the rete there were cells with dark nuclei and a cytoplasm which stained poorly or not at all. These cells were devoid of prickles and were somewhat similar to the *corps ronds* seen in Darier's keratosis follicularis. There were numerous mitoses. The cavities of the fissures contained none of the infiltrating cells found in the cutis. However, in many areas there were rete cells which appeared to have broken away from the surrounding cells and floated freely within the cavity of the fissure. The basal cell layer was intact in some areas, while in others it could be made out with great difficulty or not at all. There was an interstitial

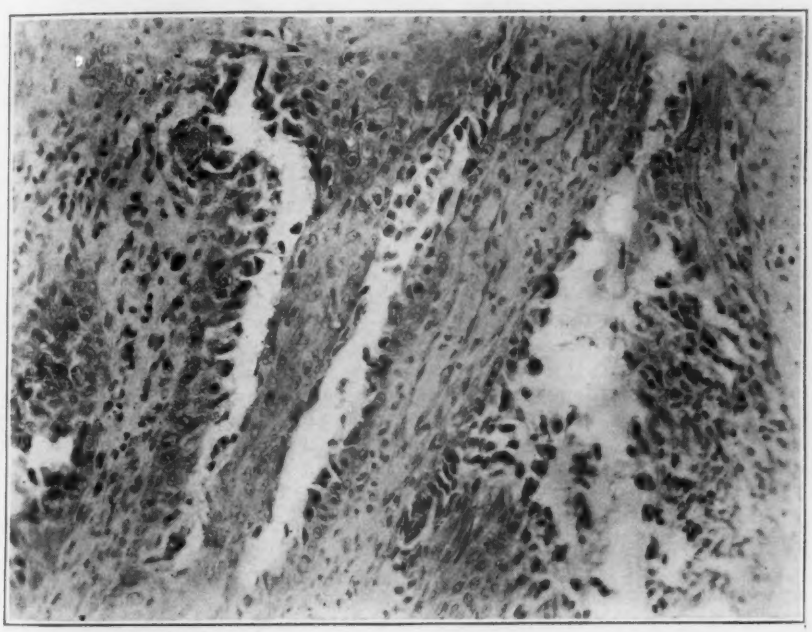

Fig. 3.—Acanthotic epidermis, poor tintorial qualities, disrupted basal cell layer, edema and degeneration (× 192). At the edges of and within the fissures are dyskeratotic cells.

and parenchymatous edema of the collagen of the upper and middle parts of the cutis. The vessels in these zones were moderately dilated and their walls edematous. There was a diffuse but not intense infiltration in the upper part of the cutis composed for the most part of plasma cells, as well as some small round and wandering connective tissue cells.

Briefly, the following therapeutic measures have been carried out: Continuous wet dressings with solutions of boric acid, aluminum, acetate, potassium permanganate and silver nitrate; poultices of liquid petrolatum; ointments containing salicylic and benzoic acids, chlorhydroxyquinoline (quinolar) ointment and 30 per cent sulfur in petrolatum; applications of zinc peroxide silver nitrate and tannic acid, gentian violet and peruvian balsam, and soothing applications of saline solution and paste of zinc oxide N. F. Constitutional treatment has consisted of rest

in bed, a liberal diet and the administration of vitamin concentrates in large doses, liver extract, yeast, arsenic, antimony and potassium tartrate, insulin, quinine, sulfonamide compounds (locally and by mouth) and sodium and calcium thiosulfate. Roentgen treatment was administered five years ago by Dr. Whitehead, but the technic and total dose of radiation are unknown.

The following diagnoses have been considered: dermatitis vegetans, pemphigus vegetans, granuloma inguinale, benign familial pemphigoid dermatosis (Haley) and erythroplasia.

Clinically, against a diagnosis of pemphigus vegetans are absence of eosinophilia, absence of odor, sharp margin and progressive evolution over a period of ten or fifteen years. Against granuloma inguinale and lymphogranuloma venereum are absence of Donovan bodies, absence of enlarged lymphatic glands, negative Frei reaction and lack of response to treatment with antimony and potassium tartrate. Against benign familial pemphigus are absence of vesicles or bullae, absence of eruption in the axillas, umbilical area, anal region and other parts, absence of remissions and exacerbations, slow progressive evolution and irrelevant family history. The evolution, the fixed character of the eruption, the persistent exudation and the therapeutic stubbornness are in favor of erythroplasia in spite of the location and distribution of the eruption. It is difficult if not impossible to rule out dermatitis vegetans. However, the combined clinical, histologic and therapeutic evidence indicated either Haley's benign familial pemphigus or erythroplasia. I favor a diagnosis of erythroplasia.

DISCUSSION

DR. E. WILLIAM ABRAMOWITZ: I had occasion to see this patient in the ward, and I thought of the possibilities mentioned by Dr. MacKee. The lesion was weeping and not only involved the present area but extended to the groin. I saw the slide which showed a pemphigoid vegetating lesion. Not having seen erythroplasia of such an extensive nature I thought the lesion was probably a dermatitis vegetans. I was interested to determine whether the patient could tolerate 30 per cent sulfur, which he did, but it did not do him much good. Another diagnosis that came to my mind was a possible factitious eruption because he had himself screened off from the rest of the patients in the ward and kept to himself most of the time. It seems to me that, in addition to the measures suggested, the areas should be sealed in for two or three weeks so that he could not get at them.

DR. WILBERT SACHS: Clinically I am in favor of the diagnosis of erythroplasia, although I have never seen this disease so extensive.

DR. GEORGE M. LEWIS: The impression I had was that the lesion was an acute inflammatory process probably secondary to a focus, for instance the prostate. If such is the case the chronicity and rebelliousness of the condition are explained.

DR. LECLERC (by invitation): There were five biopsy specimens taken in this case. Two of these, taken right in the middle of the granulation tissue, were unsatisfactory for microscopic examination because the tissue was broken up. Another showed islands of bowenoid structure. The two specimens taken from the rolled border of the lesion showed hypertrophy of the granular layer, which is contradictory to the other findings. As far as the evolution of the eruption is concerned, it seems that of all the therapy that was tried local application of sulfanilamide did the best. Now the lesion looks better than it has, but it is more extensive. At first it was only about 1 inch (2.5 cm.) from the base of the penis, and now it goes almost to the end. It is unfortunate that it is in such a location, for occlusive dressings cannot be applied.

DR. FRED WISE: I recall a patient with a similar lesion treated at the Vanderbilt Clinic twenty-five years ago. He was treated with continual wet dressings of diluted solution of sodium hypochlorite U. S. P. (Dakin's solution). If malignancy could be eliminated here, I should be inclined to use constant wet dressings and keep the patient under constant observation.

DR. GEORGE M. MACKEE: The main features are a sharply marginated, slowly progressive eruption confined to one small area of the body over a period of ten or fifteen years. The histologic architecture is not specific for any condition, but it is compatible with erythroplasia. While dermatitis vegetans cannot be definitely ruled out, with everything considered and in spite of the location I think the patient has erythroplasia.

Contact Dermatitis (Telephone Receiver?). Presented by DR. E. WILLIAM ABRAMOWITZ.

S. A., a man aged 32, married, a private patient, appeared at my office on Feb. 18, 1942 with an eruption on the left ear and adjacent areas of the cheek, chin and neck. In these areas there were considerable erythema, edema and vesiculation with itching and burning. Slight erythema and scaling were present on the right side of the neck and lips. The sides of the fingers showed dyshidrotic vesicles which had appeared about the same time as the eruption on the face, all of three weeks' duration. Attacks came on, usually between 2 and 4 o'clock in the afternoon, every three or four days. There is no history of allergy. The patient was operated on four years ago for mastoiditis on the right side, with resultant deafness in the right ear and weakness of the right side of his face.

A possible infectious eczematoid dermatitis was excluded because there were no general symptoms. The blood count and the sedimentation rate were normal. Nevertheless, he was given sulfadiazine (2-[paraaminobenzenesulfonamido]-pyrimidine) internally, and a sulfathiazole ointment was applied externally. He had several recurrences while under such medication.

The history favored the diagnosis of contact dermatitis. He was tested with the various materials he handles in his work (rayons, crepes, zippers, nickel and paper) and also shaving soaps, perfumes and many other suspected substances. He was found sensitive to mercury (he had used mercurochrome), arsenic and "calmitol" ointment (a preparation containing camphor, menthol and hyoscine in a mixture of ether, chloroform and alcohol). Internal medication was irrelevant. Several examinations of the vesicles on the fingers failed to reveal fungi.

He handled the telephone receiver and carried it to the left side of his face. On the days that he used the telephone considerably the eruption flared up on the face and fingers. Patch tests (patches left on forty-eight hours) with pieces from the telephone receiver, both in oil and in water, were made, with indefinite results.

NOTE.—A test (performed after presentation) with solution of formaldehyde U. S. P. diluted 1:20 with water elicited a 4 plus reaction. (Solution of formaldehyde is said to be a constituent of some bakelite products.)

DISCUSSION

DR. ANTHONY C. CIPOLLARO: I agree with the diagnosis of dermatitis venenata caused by contact with the telephone receiver. The patch test made with a fragment of the telephone receiver elicited a positive reaction.

DR. GEORGE M. MACKEE: It is probable that the eruption on the ear is due to sensitization to some material on the telephone receiver. The eruption on the backs of the hands confuses the picture because these parts do not contact the receiver. It may be that the patient has two different conditions. The eruption on the hands may be a dermatophytid, and the eruption on the ear may represent dermatitis venenata. It might help to make a patch test with filings from the receiver rather than pieces, and it might also help to apply the patch close to the ear rather than on some other part of the body.

DR. JACK WOLF: I too favor two diagnoses in this case because of the vesicular lesions on the sides of the fingers and in locations where the patient is not exposed to contact with the telephone.

DR. LECLERC (by invitation): There was a patient in the hospital who had a dermatitis on the left hand and not on the ears. She was a telephone operator.

DR. HERMAN SHARLIT: I think the presenter made an ingenious analysis of the case even though it may be wrong; it seems to me, however, that his deductions are correct.

DR. A. E. WOODE (by invitation): I think Dr. Abramowitz' diagnosis is correct. The patch test might be made with some of the patient's sweat along with the material suggested by Dr. MacKee, to substantiate further Dr. Abramowitz' diagnosis. I should also like to say that since it is taught that the skin reacts as a whole organ direct contact with the telephone may not be necessary in order for the eruption to flare up in other areas of the body. I do not favor two diagnoses.

DR. FRED WISE: My impression is that this man has two entirely different eruptions. If one did not see the eruption on his face one would say that what he has on his hands is either pompholyx or a dermatophytid. The lesions on the face seem to me to be unrelated to those on his hands.

DR. E. WILLIAM ABRAMOWITZ: The eruption on the hands may possibly have no connection with the eruption on the face. I am not certain that he had the eruption on the hands before it appeared on the face. In observing him, I have noticed that at the time the eruption on the face flared up more vesicles developed on the sides of the fingers and not so many on the backs of the hands. The patient perspires a great deal on the palms and sides of the fingers, and it is possible that when he takes hold of the receiver the perspiration helps in causing the eruption to appear.

CHICAGO DERMATOLOGICAL SOCIETY

UDO J. WILE, M.D., *President*

MICHAEL H. EBERT, M.D., *Secretary*

March 18, 1942

A Case for Diagnosis (Parapsoriasis?). Presented by DR. THEODORE CORNBLEET and DR. H. C. SCHORR (by invitation).

N. S., a woman aged 39, has had an eruption for five years, which has become progressively more extensive. The lesions are now confined to the trunk and thighs and consist of superficial patches and sheets of chronic scaling dermatitis. The patches are fairly well outlined; the scale is thin and in some places apparent only by scraping. On close inspection the larger elements can be resolved into scaly lichenoid papules. In places lineae distensae are simulated, but the atrophy is only apparent. The larger lesions show delicate folding of the epidermis, best shown by stretching the skin. A retiform arrangement is demonstrated on the flanks. There are no subjective complaints except occasional slight itching.

Examination of the blood revealed hemoglobin 90 per cent, erythrocytes 3,750,000 and leukocytes 10,300.

The patient has three children, the youngest 7 years old.

DISCUSSION

DR. CLARK W. FINNERUD: In my opinion, this patient presents manifestations of avitaminosis.

DR. L. M. WIEDER, Milwaukee: I believe the diagnosis lies between an acquired ichthyosiform erythroderma and an atypical form of parapsoriasis.

DR. JAMES H. MITCHELL: I had under observation a young man with an eruption that resembled that of this patient. He had similar clear areas which were sharply defined. I had an idea that he might have an avitaminosis, but he

took enough vitamins, with no benefit. The condition improved with the use of the sun lamp and large doses of vitamin B complex but has not been completely cured.

DR. MICHAEL H. EBERT: I do not suppose Dr. Mitchell will remember a patient, a man, at Rush Medical College with acquired ichthyosis. As I remember, some of the areas of the body were spared and the eruption was not universal. In those days nothing was known of the mysteries of vitamins, so nothing much was done about the case.

This patient certainly has an ichthyosiform eruption, and if there is such a thing as acquired ichthyosis, this is it. I am inclined to believe that it is not on the basis of an avitaminosis unless there is some peculiar manifestation of metabolism, such as Peck has reported in Darier's disease, so that provitamin A is not utilized as it is in normal persons. However, it would be worth while to give this patient a thorough study with vitamin A therapy.

DR. CLARK W. FINNERUD: A good many years ago I reported a couple of cases of acquired ichthyosis. The essential features were practically those of ordinary ichthyosis. These characteristics were lacking in the patient presented today.

DR. THEODORE CORNBLEET: As far as I can gather from this woman's history without going into it in specific detail, she seemed to be well nourished and did not lack for food; though, of course, a person may have a great deal of food available and yet have a faulty choice. There are areas on the back and in some other sites that made me think of mycosis fungoides and still other ones which have certain appearances which I remember having seen in a case of parapsoriasis en plaques that I observed with Dr. Engman. The present case reminded me of that one, with a combination of mycosis fungoides and parapsoriasis. The shriveling and wrinkling seen in the en plaques type was particularly well shown. I am not just sure what the diagnosis is in this case.

A Case for Diagnosis (Atypical Sarcoid?). Presented by DR. DAVID KAHN (by invitation) and DR. S. W. BECKER.

M. K., a woman aged 53, born in Czechoslovakia, entered the University of Chicago Clinics on Sept. 11, 1941, with the history of lesions on the face of four years' duration. One papule appeared first. Later similar lesions spread over the cheeks and forehead. In addition she had xanthelasma, a stasic ulcer on the left ankle and varicose veins. There was a history of cholecystitis, "milk leg" and questionable puerperal sepsis. She had had one miscarriage and two stillbirths. There was no known pulmonary disease or exposure to tuberculosis; there were no pulmonary symptoms.

Examination of the skin of the cheeks and forehead revealed edematous discoid papules and circumscribed plaques, with a brownish livid color. There was no scaling, follicular plugging or atrophy. Glass pressure revealed a brownish apple jelly color. General physical examination revealed enlarged tonsils. The patient was edentulous.

A roentgenogram of the chest showed slight accentuation of the hilar shadows with small calcified nodules in each hilar region and thickening of the interlobar pleura on the right. The roentgenograms were suggestive of small areas of infiltration, as is seen frequently in sarcoidosis. Fluoroscopic examination showed bilateral graying in the lungs.

Roentgenograms of the hands and feet showed no evidence of sarcoid lesions. Minute exostoses were seen along the cortex of the shafts of some of the phalanges.

The reactions to tuberculin tests with dilutions of old tuberculin were as follows after forty-eight hours:

1:1,000 dilution — 10 mm. wheal: + redness, 0 induration
1:100 dilution — 20 mm. wheal: ++ redness, ++ induration

Repeated urinalyses have shown moderate numbers of leukocytes.

Examinations of the blood have shown the hemoglobin varying from 11.5 to 14 Gm., leukocytes 5,800 to 7,000 and erythrocytes 3,990,000 to 4,410,000, with a differential count of 2 to 6 per cent monocytes and 3 to 4 per cent eosinophils.

The Kolmer and Kahn reactions of the blood serum were negative.

A biopsy revealed a wide band of lymphocytic infiltrate in the superficial dermis.

Under treatment with weekly intravenous injections of gold ammonium succinimide (seventeen injections with a maximum dose of 400 mg.), the lesions have become less edematous and slightly paler. After the sixth injection of the gold compound, pruritic, circumscribed, erythematous, scaly and crusted patches appeared on the upper extremities. These have not responded to local therapy.

DISCUSSION

DR. MINNIE O. PERLSTEIN: I believe this woman has two distinct eruptions, one on the face and the other on the extensor surfaces of the forearms extending onto the dorsa of the hands. The eruption on the forearms and hands is, I believe, an infectious eczematoid dermatitis, or nummular eczema. To me the lesions on the face are superficial, and, although I did not see the microscopic section, clinically I agree with the diagnosis of atypical sarcoid.

DR. M. R. CARO: I think clinically the lesions on the face, hands and forearms are consistent with atypical lupus erythematosus. The histologic diagnosis of lupus erythematosus can be established from the section presented. There is some liquefaction of the basal layer, and there is an infiltration in the upper part of the corium, consisting mostly of lymphocytes. While all the features that one ordinarily sees in lupus erythematosus are not present, I think this diagnosis is correct.

DR. OTTO H. FOERSTER, Milwaukee: The lesions on the forearms and hands, I believe with Dr. Perlstein, are those of an eczematoid dermatitis unrelated to those present elsewhere. The reddish brown lesions on the cheeks near the nose and on the lobe of the right ear present clinical features compatible with those of angiolupoid, as described originally by Brocq and Pautrier. Though located most often on the sides of the upper part of the nose, lesions have been present also on the cheeks in some of the few recorded cases of this disease in women past 40. In the patient of Drs. Kahn and Becker the lesions are few, as in other cases of angiolupoid, and are oval, smooth and not scaly, with a soft, velvety, sharply marginated infiltrate. A few small vessels cross the surface, and on glass pressure an even, yellowish brown infiltrate is seen, also on the lobe of the right ear. I think sections were not shown from these lesions.

DR. CLARK W. FINNERUD: Dr. Foerster's suggestion is interesting. I had not thought of that possibility. From the histologic section I am inclined to agree with Dr. Caro in the diagnosis of lupus erythematosus.

DR. S. W. BECKER: The eruption on the arm followed injections of gold salts and constitutes a dermatitis. We thought of lupus erythematosus at first, but these lesions have all shown a brownish apple jelly color on pressure. I do not believe the microscopic changes are those of lupus erythematosus. We have seen this clinical picture in 2 patients with slightly elevated soft plaques which have shown a distinct brownish color on glass pressure. We have been compelled by the process of elimination to consider some bizarre tuberculous infection, perhaps in the form of lymphoid tubercles, and we have called the disease sarcoid for lack of a better name.

Lupus Vulgaris with Pulmonary Tuberculosis. Presented by DR. E. A. OLIVER and DR. S. M. BLUEFARB (by invitation).

N. S., an American housewife aged 24, was in good health until about four years ago, when she began to complain of loss of appetite, generalized malaise and weakness. At that time she was five months pregnant. Her weight before

pregnancy had been 125 pounds (56.7 Kg.). She continued to lose weight throughout the pregnancy, and at term her weight was 91 pounds (41.3 Kg.). About three years ago she first noticed a lesion on her forehead; it started as a small pimple but increased in size until it was as large as a dime and was slightly elevated. She was referred to a radium specialist, who applied five treatments of radium, which caused slight flattening of the lesion.

She was first seen at Northwestern University Clinics on Dec. 11, 1940, at which time there was present at the left eyebrow an irregular quarter-sized, erythematous, crusted patch slightly elevated at the edges. Diascopic pressure revealed apple jelly nodules. There was evidence of a slightly depressed scar in the center. Histologic examination of a section removed at that time showed a tuberculous structure, and a diagnosis of lupus vulgaris was made.

Because of the reaction to the radium, irradiation with a Finsen lamp was not started until March 1941, and it was continued to July 1941. A total of ten hours was given in divided doses, but in spite of this treatment the lesions progressed. On June 11, 1941 examination showed that both arytenoids were swollen and both cords had a moth-eaten appearance. A diagnosis was made of tuberculosis of the larynx. A roentgenogram of the lungs at that time revealed an infiltrative process in both upper pulmonary fields, especially on the right side, and extending down to the second interspace. There was an increase in density about the size of a silver dollar located in the hilar region. This rounded contour was suggestive of glandular involvement. A diagnosis was made of active tuberculosis of the lungs.

Examination of the blood revealed a hemoglobin content of 12.2 Gm., 4,370,000 erythrocytes and 7,300 leukocytes. The basal metabolic rate was +1 per cent. The cholesterol content of the blood was 184 mg. per hundred cubic centimeters and the chloride content 496 mg. The Ewald test meal showed free hydrochloric acid 26 and total acids 39.

In August 1941 social service investigation revealed that the patient had made arrangements for sanatorium care, and at present she is a patient at Winfield Sanatorium, Winfield, Ill. Treatment there has consisted of rest in bed, salt-free diet and injections of 15 per cent starch solution locally. Treatment in the past week has consisted of washing off the crusts with warm boric acid solution and applying 5 per cent sulfathiazole ointment. In spite of the fact that the pulmonary lesions have responded to treatment, the cutaneous lesions have continued to progress.

DISCUSSION

DR. DAVID LIEBERTHAL: The case requires a great deal more study. Against the diagnosis of lupus vulgaris is the rather rapid spread of the lesion.

DR. UDO J. WILE, Ann Arbor, Mich.: The condition in this case looks clinically like a late syphilid or blastomycosis rather than like a lupus vulgaris. There are many conflicting data in the histories. The short duration and the great extent of the lesion are certainly unusual for lupus. A second contradictory finding is that the patient is in apparently good health now after having had laryngeal tuberculosis, which is so commonly a terminal infection secondary to extensive pulmonary disease. The biopsy report is also not altogether conclusive, since tuberculosis and syphilis occasionally so closely resemble each other microscopically that trained pathologists sometimes confuse them. I saw no mention in the history as to whether a serologic test had been made and syphilis excluded; I should institute a course of antisyphilitic treatment even if the serologic reaction were negative. The extensive involvement would certainly justify such a procedure.

DR. MICHAEL H. EBERT: Has the patient been examined by a nose and throat specialist to see if there is any involvement of the nasal mucosa, which so frequently accompanies lupus vulgaris? In that connection, I have seen 2 patients with laryngeal tuberculosis in whom a rather rapidly progressing tuberculosis of the mucous membrane of the mouth developed, involving the jaw in one and

the depression along the jaw in the other. One never sees anything as fulminating as this with lupus vulgaris. I should like to hear from Dr. Oppenheim. I believe that in Vienna the incidence of lupus vulgaris is greater than here. I should like to ask him whether such rapid progress of lupus vulgaris is common.

DR. MAURICE OPPENHEIM (by invitation): The clinical picture is not in accord with the diagnosis of lupus vulgaris. The nodules in the periphery have not the typical color of deep brown-red; they are a light pink. They are hard, whereas lupus nodules are soft. The scar is not that of lupus, which is fine white and silky; here the scar is irregular and thick. The pulmonary and laryngeal tuberculosis do not necessarily indicate the presence of lupus vulgaris. Kaposi, for instance, believed that lupus vulgaris and tuberculosis of the lungs were not coincidental. On the contrary, if a patient had lupus vulgaris, the internal organs did not show signs of tuberculosis. In regard to the rapid progression in this case, I cannot recall a case in which in such a short time such a large amount of skin became involved by lupus vulgaris. The histologic sections showed a lipoid tissue, with a nodular structure and epithelioid and giant cells of the Langhans type without caseation. These findings exclude syphilis, blastomycosis and other chronic granulomas.

DR. THEODORE CORNBLEET: This woman received injections of suspensions of starch. I have watched 2 other patients who had injections of starch for a while without benefit. I recall a patient in St. Louis with a rather brilliant result from the same treatment with starch. I wonder what the experience of other members has been with this treatment.

DR. JAMES H. MITCHELL: Dr. Ebert may recall a patient in the clinic in whom in the course of two years an eruption had developed which had spread from the chin over the nose to the forehead. I told the students that lupus vulgaris could not have become so extensive in that short period, and, although the Wassermann reaction was negative, I presented the case as one of tertiary syphilis. A specimen was to be taken for biopsy, but after an injection of 0.3 Gm. of neoarsphenamine the lesion cleared up before the specimen could be cut. There was not as much crusting as in this case. When I saw this patient today I immediately thought of the other case.

DR. UDO J. WILE, Ann Arbor, Mich.: I have the same feeling that Dr. Mitchell has. Was this woman carefully investigated for syphilis?

DR. EDWARD A. OLIVER: I referred this patient to the clinic at Northwestern University, where a biopsy was performed and a diagnosis of lupus vulgaris was made. I am sure that all who saw the slide will agree that the tissue has a distinct lupoid architecture. After a diagnosis of lupus vulgaris was made, she was referred to the physical therapy department, where she was treated with the Lomholt-Finsen lamp. We have had a number of excellent results with the use of this lamp, but it apparently has had no effect on this patient's condition, and we showed her because we are at a loss as to how to treat her.

I agree that the picture is confusing at present, but at the start one would have had no hesitation in making a diagnosis of lupus vulgaris. While she was attending the clinic she was seen by a competent laryngologist and a competent internist, and a diagnosis of laryngeal and pulmonary tuberculosis was made. Shortly after that she was sent to the Winfield Sanatorium. She has improved wonderfully in health. The serologic reaction for syphilis is negative. She is married and has one child; there have been no miscarriages. There is no question in our minds about the diagnosis being lupus vulgaris.

Urticaria Pigmentosa. Presented by DR. MARCUS R. CARO.

R. J., a white woman aged 33, first had an eruption on the forearms about five years ago. Gradually this extended to become generalized. These lesions have persisted but have varied at times in intensity of color.

There was no personal or familial history of allergy.

The patient was studied at the University Hospital at Ann Arbor, Mich., last year. At that time no pathologic changes were found other than those in the skin. Studies of the blood including determinations of bleeding and clotting time, gave normal results. The reaction to a capillary fragility test was negative. The blood pressure was 150 systolic and 100 diastolic. The Kahn reaction of the blood was negative. Urinalysis revealed no abnormality.

At present the eruption is generalized, being most profuse on the arms and thighs and least so on the face. The lesions are discrete round pea-sized dull red maculopapules, slightly elevated and showing slight infiltration. On the thighs the color is more purplish. Pressure with glass removes most of the color. Friction over the lesions causes them to become urticarial and brighter in color.

A section for histologic examination was taken from a lesion on the right arm. This section, stained with polychromemethylene blue, showed many mast cells in the upper part of the corium and about the blood vessels. A section stained with hematoxylin and eosin showed considerable dilatation of the blood vessels.

DISCUSSION

DR. JAMES H. MITCHELL: What was the patient's age when the eruption began? Was she in the third decade?

DR. UDO J. WILE, Ann Arbor, Mich.: It began when she was 28.

DR. JAMES H. MITCHELL: Some years ago a woman about this age presented herself with an eruption much like this. She had been told she had secondary syphilis and was given some treatment. I had her under observation for about ten years, giving her various treatments as they were made available, but never succeeded in improving the eruption in the slightest degree.

A Case for Diagnosis (Epithelioma? Lupus Erythematosus?). Presented by DR. E. A. OLIVER and DR. I. M. FELSHER (by invitation).

E. D., a white woman aged 35, entered the Northwestern University medical clinic on March 4, 1942, complaining of a lesion on the scalp of six years' duration.

Examination revealed this lesion to be about the size of a large coin, with an atrophic center and complete alopecia. The border contained some small papules of a pearly character.

She stated that the lesion was first noticed about six years ago, after she suffered a burn from a permanent waving machine. The patch at that time became infected and failed to heal. She received a variety of local applications from different physicians. About a year ago she consulted a dermatologist in this city who made a diagnosis of epithelioma on the basis of a histologic examination. Healing occurred with roentgen ray and radium treatment, but the lesion recurred. She was given injections of a bismuth compound. Some time later she consulted another dermatologist. He also made a histologic study, and a diagnosis of lupus erythematosus was made. According to her statements, she noticed no improvement following a course of intravenous injections of gold and sodium thiosulfate.

The serologic reaction of the blood for syphilis was negative, and she said it had been negative on repeated examinations for fifteen years. The spinal fluid was normal also. The blood count and the urine were normal.

DISCUSSION

DR. S. W. BECKER: The lesion shows the typical rolled border of a basal cell sarcoma.

DR. CLARK W. FINNERUD: The rolled border that Dr. Becker spoke of is not a "pearly" border. When one punctures one of those lesions serum comes out; it is a vesicle. It looks like a "pearly" growth, but it is not. The histologic section I am sure will settle it. In my opinion the condition is not an epithelioma. I do not think it is lupus erythematosus either. I do not know what it is unless, possibly, as suggested by Dr. McCuskey, it is an unusual folliculitis decalvans.

DR. HERBERT RATTNER: I did not puncture a lesion, but I thought that clinically the patient had an epithelioma at the periphery of an old scar.

DR. DAVID LIEBERTHAL: The pronounced inflammatory condition of the follicles surrounding the atrophic bald patch suggests folliculitis decalvans.

DR. THEODORE CORNBLEET: When I saw the patient some time ago the lesion had the same kind of rolled border that is present today. It was almost as large. The border was hard. A specimen for biopsy was taken from the edge, including part of the scarred portion. There was then an escape of fluid too, just as mentioned by Dr. Finnerud. Study of the tissue showed the lesion to be an epithelioma. On that basis the patient was treated with radium. The lesion practically cleared up, only to recur. Thinking of a background of syphilis, though the serologic reaction of the blood was negative, I gave her several injections of a bismuth compound. This was of distinct benefit without causing complete cure. At this time the patient left my care.

DR. S. W. BECKER: Epitheliomas of the scalp may be for some reason resistant. An elderly woman came to me with a severe second degree roentgen ray reaction over a large area of the scalp, which quieted down under treatment with Aloe. When it became quiescent, at the borders and over the area of reaction there were many elongated elevated linear lesions, which on biopsy showed basal cell epithelioma.

Pigmented Hairy Nevus, Bathing Trunk Type, with Multiple Satellites.
Presented by DR. M. DORNE and DR. S. J. ZAKON.

M. H., a Jewish student nurse aged 21, presents a pigmented hairy nevus which covers the back from the infrascapular area to the sacrum and partially covers the abdominal wall. The left side of the nevus is brownish and is interspersed with some sooty black macules, while the right side is much lighter in color. In the center of the nevus are three discrete, depigmented, smooth, hairless areas measuring 3 to 5 cm. in diameter. The hairs which cover the nevus are long but depigmented. Covering the thighs, legs, forearms and arms are over eighty discrete, light brown hairy moles, which vary in size and shape. None of these is elevated. They have become more hairy in the last two years. The patient shows no other physical abnormalities. Her intelligence is above average. She has a younger brother who has no nevi, and her parents do not have any moles.

DISCUSSION

DR. S. ROTHMAN (by invitation): Complete absence of inheritance is in accord with the findings of Siemens, who studied the occurrence of systemic hairy nevi in identical twins and came to the conclusion that there is no hereditary factor in their genesis.

DR. EDWARD A. OLIVER: I wonder if any one has ever seen malignant degeneration of a hairy nevus.

DR. UDO J. WILE, Ann Arbor, Mich.: I can recall observing a number of cases of bathing trunk nevus, and—if I recall rightly—Dr. Traub, who has written extensively on this subject, has mentioned that this type of nevus has little or no potentialities toward malignancy. However, the 2 cases mentioned today in which malignancy apparently occurred in this type of nevus lead to the inevitable conclusion that this type of nevus must be placed in the group of potential melanoblastomas.

DR. MICHAEL H. EBERT: A short time ago I saw with Dr. Ormsby a bathing trunk nevus in a girl of 6 or 7 years. She traumatized it in running against a post; regional adenopathy and generalized lesions then developed, and she had a malignant melanoblastoma. Dr. Ormsby made the statement that it was contrary to anything he had ever seen.

DR. MINNIE O. PERLSTEIN: About ten years ago I saw a Mexican child at the Cook County Hospital immediately after birth who presented a bathing trunk nevus and numerous smaller pigmented nevi scattered over the extremities. There were no vascular nevi. I watched this child for about eight years. During this period he had three admissions into the hospital because of recurrent cerebral hemorrhages with hemiplegia. He died at 8 years of age from pneumonia, which occurred during one of the attacks of cerebral hemorrhage.

DR. EDWARD A. OLIVER: About six years ago I saw a young woman with an extensive bathing trunk nevus which had undergone malignant degeneration. When I saw her the disease had advanced to such a degree that she died three months later. The reason I asked the question is that I had never before seen a bathing trunk nevus of this type undergo malignant degeneration.

Sarcoid of Boeck. Presented by DR. DAVID V. OMENS, DR. HAROLD D. OMENS (by invitation) and DR. M. OTSUKA (by invitation).

R. S., an unmarried American aged 29, a laborer, presents on the digastric area just beneath the chin a palm-sized patch consisting of numerous nodules of varying dimensions. The patch as a whole has a somewhat violaceous tinge and on diascopic pressure reveals light brownish or yellowish nodules. This lesion has been present as long as the patient can remember but is becoming progressively larger. He has had numerous examinations for tuberculosis, all of which have given negative results. His mother died at the age of 22 of tuberculosis. The hemoglobin content was 78 per cent. The chemical examination of the blood and urinalysis gave normal results. The Kahn reaction was negative. The reaction to tuberculin in a dilution of 1:100,000 was negative, and roentgenographic study of the chest showed nothing abnormal.

Histologic examination revealed a dense cellular infiltration occurring in the hypoderm and extending up into the papillary layer. This cellular infiltration occurring in nests was made up of epithelioid cells which in turn were surrounded by lymphocytes with only a rare giant cell. There was an absence of blood vessels in the involved areas as well as elastic and collagenous tissue, with faint evidence of necrosis.

DISCUSSION

DR. HERBERT RATTNER: On clinical grounds I should entertain a diagnosis of superficial lupus vulgaris.

DR. CLEVELAND J. WHITE: Clinically there is an advanced, raised border, resembling apple jelly, with subsequent atrophy. One would have to consider seriously lupus vulgaris or possibly lupus vulgaris erythematodes of Leloir. I did not have the opportunity of seeing the microscopic section, but the clinical appearance is certainly that of lupus vulgaris.

DR. L. M. WIEDER, Milwaukee: If one were not influenced by the history and were encountering this case for the first time, late syphilis would be a diagnostic possibility. To one recognizing the condition as tuberculosis, the amount of crusting suggests the primary necrosis of lupus vulgaris rather than mere superficial traumatic crusting superimposed on a sarcoid.

DR. UDO J. WILE, Ann Arbor, Mich.: I thought that this patient had clinical lupus vulgaris rather than sarcoid. The long duration of the eruption and the presence of ulceration certainly speak more for tuberculosis than for sarcoid. Histologically sarcoid was suggested, I imagine, largely because the infiltration was circumscribed and deep. I am in accord with the view of Dr. Becker, that the lesion is one of tuberculosis with something of a sarcoid architecture.

DR. CLARK W. FINNERUD: I thought that clinically the lesion more likely was lupus vulgaris. Histologically it was not. There was little necrosis in the section, but there was some. Because of this fact I should lean more to a diagnosis of lupus vulgaris than to that of sarcoid.

DR. MICHAEL H. EBERT: Histologically the lesion could be sarcoid. Lewandowsky has described a form of lupus vulgaris with large numbers of epithelioid

cells, and occasionally giant cells, surrounded by areas of lymphocytes. I wonder if Dr. Rothman remembers that.

Dr. S. Rothman (by invitation): I agree with Dr. Ebert that this case is one of lupus vulgaris with sarcoid-like structure histologically. The process started in early childhood, which is unusual for sarcoid. Spreading to the periphery it left fibrous scars in the center indicating deep destruction, which does not occur in sarcoid. The border shows a typical lupus vulgaris infiltrate on pressure. The patient has a lupus vulgaris lesion on the right side of the forehead. It is soft, fragile and brownish red and on pressure shows distinct spots the color of apple jelly.

Dr. Marcus R. Caro: I think that histologically the lesion was acceptable as lupus vulgaris in spite of the fact that I saw no giant cells in the section. About the tubercles there was a decided inflammatory reaction, and that is not usually seen in sarcoid. I believe that clinically as well as histologically the patient has lupus vulgaris.

Dr. Maurice Oppenheim (by invitation): I think the lesion is lupus vulgaris rather than sarcoid. It is unusual for sarcoid to show ulcerations and scars. If it is the so-called sarcoid type of lupus vulgaris which Lewandowsky described, the absence of caseation in the histologic sections is remarkable. What I said in the case of lupus vulgaris presented by Drs. Oliver and Bluefarb is true here too; the color, the scars and the ulcers speak against ordinary lupus vulgaris. The ulcerations are irregular. They look almost traumatic in some areas.

Dr. S. W. Becker: In Bloch's clinic in Zurich, Switzerland, I often encountered cases in which a diagnosis of the sarcoid type of lupus vulgaris was made. I believe it should be made here.

A Case for Diagnosis. Presented by Dr. M. H. Ebert.

C. O., a Swedish man aged 44, presents an eruption on the face, scalp, neck, back, arms and legs. He was a sailor until seventeen years ago, when he had to give up this work because of the appearance of the eruption on his face. The lesions have persisted in one form or another since that time and lately have appeared on the legs. He thinks the condition is worse in summer.

He gives a history of a penile ulcer twenty years ago, but he has had no treatment of any kind for syphilis. No roentgen ray or radium applications have been made to the cutaneous lesions.

Physical examination reveals a well developed and well nourished man of blond complexion. There is a diffuse bluish red erythema of the scalp with slight involvement of the forehead. The central third of the face is involved. The nose, the upper and lower lips and the chin are the sites of pocklike scarring. In places there is an adherent keratotic scale on these scars. On the chin there is a half-dollar–sized raised plaque with an irregular warty surface with some adherent scales. This plaque is only slightly infiltrated. The vermilion borders of the lips are atrophic, and in one or two places there is a bright red infiltrate. A dime-sized erythematous scaling plaque with a polycyclic outline and an adherent scale is located on the nucha. Similar smaller lesions and atrophic scars are seen in the scapular area. On the dorsum of the right wrist there is a dull red raised plaque 5 by 7 cm. with a polycyclic outline; the border is infiltrated and rolled; the center is irregular, warty and depressed and is covered with an adherent scale. Just distal to this is a depressed scar with the same polycyclic outline. A similar type of scar is present on the dorsum of the right thumb, but the border of this scar is still rolled and firm. The right ankle is somewhat edematous. Over the external condyle there is a depressed ulcer 4 by 8 cm. with a polycyclic firm border and a papillomatous red base exuding bloody fluid. Distal to this there are two similar lesions on the dorsum of the foot. There is one dime-sized plaque with a necrotic center in this area. On the buccal mucosa opposite the left second upper molar there is a dull red plaque.

The Wassermann reaction one month ago was negative. Examination of the blood revealed hemoglobin 88 per cent, erythrocytes 4,770,000 and leukocytes 6,600, with a normal differential count. The urine was normal. The reaction to a 1:10,000 dilution of old tuberculin was negative. Chemical examination of the blood and a roentgenogram of the lungs showed no abnormalities.

Histologic sections of tissue from the lip, leg and arm are presented.

DISCUSSION

DR. OTTO H. FOERSTER, Milwaukee: The patient, a sailor, had been in South America and in the Orient a number of times and also was said to have had a chancre. Syphilis can account for the destructive process on the face now evident as an extensive scar. The active lesions on the extremities are not consistent with those of an ulcerative syphilid or tuberculosis and do not present the features of a fungating medicamentous eruption nor those of mycotic processes, including sporotrichosis and blastomycosis. The lesions now present are in various stages of the small inflammatory nodule; later there will be scaling and crusting, then fungating and eventually ulcerating to form a relatively superficial ulcer with a flat, granular, secreting base, with flat margins not undermined, spreading peripherally under a thick crust. The history indicates possible exposure to tropical infections, and this, with the numerous slowly progressive cutaneous lesions which have not responded to treatment and the absence of signs of active systemic infection, leads me to conclude that this patient probably has cutaneous leishmaniasis. I believe this diagnosis will be of especial interest to Dr. Wile, who recently had a patient in his wards with this disease.

DR. L. M. WIEDER, Milwaukee: I did not examine the left side of the body, because it was not prepared for examination and the patient stated that he had never had a lesion on the left side. With the exception of the facial lesions, all of the lesions were on the right side, and as the man is right handed it would seem probable that if the condition were a specific infection, which could be spread by scratching and the like, in all these years some involvement of the left side should have occurred. I therefore suggest a careful neurologic examination, which might throw some light on this phenomenon. On the other hand, some of the lesions are compatible with lesions produced by blastomycetes and allied organisms. In one section I found an extremely large coccidioides-like structure, already noted by Dr. Ebert.

DR. UDO J. WILE, Ann Arbor, Mich.: I have precisely the same feeling about this case as Dr. Otto Foerster expressed. Within the last few months Dr. Foerster has seen with me a patient with American leishmaniasis which began in the jungles of São Paulo, Brazil. The Asiatic form of this disease (oriental sore) apparently occurs as solitary nodules, whereas the American type is more generalized, not unlike generalized blastomycosis. The Leishmania bodies are demonstrated readily in tissue and culture in oriental sore, but with difficulty in American leishmaniasis. Microscopically this patient has an infectious granuloma somewhat resembling blastomycosis and resembling closely the picture which occurred in my case of leishmaniasis.

DR. MICHAEL H. EBERT: I do not recall a case which suggested so many different kinds of diagnoses and in which there were signs and symptoms so extremely confusing. The pocklike marks on the nose and lips could fit in with syphilid or syphiloderm, but they do not fit the rest of the picture. When I saw the lesion on the lip with the small erythematous patch on the buccal mucosa together with this lymphocytic lesion on the skin with the dry adherent scaling, I thought at last I was seeing lupus erythematosus profundus that Bechet has described, but as I went over the case my assurance became less and less. I could not explain the lesions on the arms, the granulations in the center and the peculiar type of scarring. I then began to think of diseases that present a multiplicity of manifestations but are not so familiar to us. Among them is coccidioidal granuloma. I recall a case of coccidioidal granuloma observed at the Cook County Hospital in which one could find almost any kind of a lesion if one looked long enough for

it. I also thought of the French type of sporotrichosis, with lesions resembling tertiary syphilis and tuberculoderma. Looking at the lesions, I also searched very carefully for evidence of blastomycosis and found none.

Folliculitis Keloidalis of the Chin (Secondary to Sycosis Vulgaris?). Presented by Dr. Clark W. Finnerud.

A. S., a man aged 50, a draftsman, was first seen on Feb. 14, 1942 because of an eruption on the chin of two years' duration, which started on the upper lip and later appeared on the chin. The lesions consisted of pimples containing pus. The eruption disappeared spontaneously from the upper lip when he shaved his moustache. Since its onset he has had a total of 945 r of roentgen rays delivered to the skin, half of this dosage having been given with a 1 mm. aluminum filter. Sodium hydroxide preparations of the minute pustules revealed no blastomycetes. Recently the patient has had five injections of nonspecific protein in the form of typhoid vaccine given hypodermically and has used chlorhydroxyquinoline (quinolor) ointment, reenforced with sulfur, and also sulfathiazole ointment.

The Wassermann and Kahn reactions were negative.

Examination shows a slightly inflammatory nodular eruption on the chin which resembles keloid. Few or no pustules are present at this time.

DISCUSSION

Dr. L. F. Weber: I think the patient may have a misplaced eruption, either folliculitis keloidalis or rhinophyma.

Dr. Herbert Rattner: The changes are like those seen in rhinophyma. Some time ago there was a report from Dr. Wile's service of a similar case of "rhinophymatous changes on the chin." Misplaced lesions of the sort do occur occasionally.

Dr. Clark W. Finnerud: I agree that the lesion is a misplaced eruption, whatever it is. When the patient was first seen the pustular element was much more evident. In the center of each pustule was a hair, which was epilated without a great deal of difficulty. It is true that if one were to entertain a diagnosis such as I put down, one should present a section. Sections of the Kaposi keloid are characteristic, showing a plasmoma with collagenous hypertrophy.

Fibromata Dura with a Diffusely Involved Adherent Area. Presented by Dr. M. Oppenheim (by invitation) and Dr. D. Cohen (by invitation).

E. H., a Negro aged 50, presents lesions on the abdomen of three years' duration. They are not painful but are tender to the touch.

Examination reveals two tumors on the abdomen below the right costal arch. The upper one is the size of a walnut, not sharply demarcated and hard. It is divided into two parts by a furrow. Below this is a tumor of another type; it is the size of a nut, has a broad trunk and is dark red and covered with scales. This tumor seems to originate from a scar. To the right of these lesions there is a sharply limited dark polycyclic area the size of a palm with an uneven surface caused by papular infiltrations in the skin. The surface has some luster but no scales. The entire area is movable over the underlying fascia.

The patient states that he was well until fifteen years ago, when he noticed a small elevation the size of a pea in the epigastric region. This gradually increased in size, and in 1938 one lesion was removed surgically. He was told that the growth was of "neurologic origin." After this operation he was given about twenty-two injections but was not told the reason for their administration. About a year ago the lesion began to recur, and in addition a new lesion appeared above the old one. Simultaneously the skin to the right of these growths began to show definite changes.

The Kahn reaction was negative, and the urine was normal.

Histologic examination of three sections taken from the various lesions revealed a fibroma rich in cellular elements and with decided hyalinization.

DISCUSSION

DR. EDWARD A. OLIVER: I think the neoplasms in this case show a striking clinical resemblance to those described by Drs. Senear and Andrews as progressive and recurrent dermatofibrosarcoma.

DR. L. F. WEBER: I think this patient has a history that supports the diagnosis mentioned by Dr. Oliver.

DR. MICHAEL H. EBERT: In the sections of dermatofibrosarcoma one does not always find the typical structures described. Sometimes there are only proliferating connective tissue cells. I think this patient has dermatofibrosarcoma.

DR. S. W. BECKER: I saw the slide which showed penetration of a large number of cells with fusiform nuclei in between what appeared to be normal collagen fibers. That is the usual method of penetration of a malignant tumor. Another point that has not been mentioned is that this tumor falls in the nipple line, which was emphasized by Dr. Binkley in his paper on this disease. I believe the patient has a dermatofibrosarcoma protuberans.

DR. HERBERT RATTNER: In the few cases that I have encountered that were generally accepted as instances of dermatofibrosarcoma, the condition was similar to this patient's, including the characteristic tomato-like tumor in one area.

DR. MAURICE OPPENHEIM (by invitation): Our first diagnosis was clinically dermatofibrosarcoma protuberans. The following facts are against this diagnosis. The disease started fifteen years ago and was treated surgically three years ago. After the operation the mushroom-like tumor appeared. The tumors are movable. Histologically there is no trace of dermatofibrosarcoma. Dr. Regens stated the belief that the sections showed a neurofibroma, and Dr. Loeffler expressed the opinion that they showed a fibroma rich in cells. Histologic examination was made of tissue from three areas: the two tumors and the infiltrated papular area. In all the sections there was a sharp limitation against the cutis and no growing of the tumor cells. No mitoses could be seen. One of the most important examinations with the Van Gieson stain revealed a high degree of hyalinization; so we corrected our first diagnosis to fibromata dura rich in cells. No further evidence of malignancy is present. We do not believe in the diagnosis of dermatofibrosarcoma protuberans.

DR. MARCUS R. CARO: What type of treatment do you advise?

DR. MAURICE OPPENHEIM (by invitation): I advise surgical treatment with exposure to roentgen rays or radium afterward.

DR. MARCUS R. CARO: In the cases reported by Dr. Senear, in which a wide resection was done and sections were made from different parts of the tumor, histologic variations were found. I suggest that in this case the entire tumor be excised and studied histologically. In some areas the histologic changes of dermatofibrosarcoma will probably be found.

Microsporon Type of Tinea Capitis with Grouped Papular Microsporid. Presented by DR. CLEVELAND J. WHITE and DR. JOSEPH WELFELD (by invitation).

J. B., a boy aged 10 years, appeared in the City Social Hygiene Clinic with a generalized eruption of two weeks' duration. Examination showed a symmetric grouped papular eruption on the trunk and a disseminated miliary papular eruption on the face. A scaling patch with some loss of hair has been present on the scalp for five years. From this patch the microsporon was isolated by Dr. Benedek, and cultures have been planted. The Wassermann reaction was negative. Examination with a Wood light gave positive results on the scalp but negative on the glabrous skin.

DISCUSSION

DR. C. W. FINNERUD: I think this patient has a good example of a cross between a true lichenoid and a pityriasis-rosea-like type of microsporid, secondary to microsporon infection of the scalp. Such an eruption usually follows considerable irritation to the lesions on the scalp and is a toxic eruption. I find, according to the history, that there was no preceding roentgen therapy of the scalp and that apparently no really irritating local preparations have been used. This feature is unusual. It is interesting that the lichenoid eruptions seen in this country are practically altogether in Negroes. It seems that lichenoid syphilids and lichenoid tuberculids are seen more often in Negroes than in white persons.

DR. THEODORE CORNBLEET: I noticed, as did Dr. Finnerud, that the original lesion on the scalp was neither infiltrated nor particularly inflammatory, as is usually the case with the production of microsporids. The mother gave me an interesting bit of history, which may or may not have had anything to do with the eruption on the trunk. She said that five days previous to the eruption on the trunk the child had had tonsillitis and the physician who saw him at that time prescribed a medicine, which he took for five days, after which the eruption appeared. I do not know whether the medicine or the tonsillitis had anything to do with the eruption, but the time relationship is suggestive.

DR. HERBERT RATTNER: With regard to Dr. Finnerud's comment that lichenified lesions are seen more often in the Negro race, Loewenthal (Diseases of the Skin in Negroes, *J. Trop. Med.* **39**:18, 1936) mentioned the striking tendency of Negroes to have a fibroplastic diathesis, with the formation not only of lichenoid lesions but of keloids, elephantiasis, fibrosis under and around ulcers, hypertrophic scars, etc. I should like to ask Dr. Felsher to tell his experiences with endocrine therapy of tinea of the scalp.

DR. I. M. FELSHER: In general I start with small doses of diethylstilbestrol, giving 0.1 mg. once daily. I treated 10 or 12 patients with no response. I did not notice any benefit until the dose was increased to 0.5 mg. daily. Then some improvement was noticed both clinically and culturally. All of these patients are checked, in addition to the clinical observation, with cultures, examination of the hairs and scales with chloral-lactophenol (a preparation of chloral hydrate phenol and lactic acid) and observation of the scalp under the Wood light. Many of the boys, however, noted enlargement of the breasts with considerable tenderness after taking 0.5 mg. of diethylstilbestrol for one to three weeks, and in their cases administration of the drug had to be discontinued.

DR. CLEVELAND J. WHITE: Examination of the scalp revealed clinical changes typical of microsporon infection, and Dr. Benedek was able to isolate this fungus. The acute tonsillar infection may have been a factor in causing the microsporid. After consideration of all the possibilities, I believe the eruption is a microsporid coincidental with a Tinea microsporon infection of the scalp.

BROOKLYN DERMATOLOGICAL SOCIETY

L. M. WATERHOUSE, M.D., *President*

SEYMOUR H. SILVERS, M.D., *Secretary*

April 20, 1942

Xanthoma Tuberosum Multiple X with Myxedema. Presented by DR. ARTHUR M. PERSKY.

C. L., a married woman aged 46, entered Kings County Hospital because of multiple tumors on the fingers, elbows and knees of sixteen years' duration. There was no history of diabetes or of a familial tendency. As the tumors increased in size, the patient had some removed surgically, but they recurred. Treatment with insulin for nine months did not affect the size of the lesions.

Examination shows an obese woman with dry skin and hair. The hair line in the back is straight. The skin has a yellowish tint. On the fingers, hands, elbows, knees, buttocks and heels are numerous yellowish soft and hard tumors, varying in size from that of a marble to that of an orange. The normal architecture of the fingers and hands is changed by these massive tumors. At the pressure points and in the folds of the skin are seen areas of yellowish papules and nodules.

The Wassermann reaction of the blood was negative. The urine was normal. Studies of the blood showed a mild anemia and a total cholesterol content of 334 to 486 mg. per hundred cubic centimeters, with 162 to 228 mg. of cholesterol esters. Roentgenograms of the skull and long bones showed them to be normal. The histologic examination of a nodule removed from the right index finger showed a fibroma.

DISCUSSION

DR. J. SCHWEIG: This is a classic case. Some of the tumors impress me as being fibromas, since they lack the yellowish color and are rather soft. The histologic report of one of them, removed some time ago, confirmed that impression. From the therapeutic standpoint, the outlook is not promising, since these tumors do not yield to any therapy except surgical removal.

Case of xanthoma tuberosum multiplex with myxedema.

DR. D. M. DAVIDSON: In some instances, when a section is made from an old lesion, it is hard to find xanthomatous cells.

DR. S. H. SILVERS: The patient is presented with a diagnosis of myxedema, but now I see no symptoms of this disease. Was this diagnosis based on a low basal metabolic rate or on clinical symptoms?

DR. SMALLENS (by invitation): When the patient was first examined, her skin was extremely dry and her eyelids were puffy. She was seen by the medical consultant, who suspected myxedema. The clinical impression was confirmed by the basal metabolism test. In addition to the dry skin she had dry hair and the characteristic hair line, the hair growing straight across in back instead of down.

DR. A. WALZER: It is possible that some of these tumors are fibromas with xanthoma deposits and that the lesion reported was a true fibroma. Not all tumors need show typical xanthoma cells.

Erythema Induratum. Presented by DR. JACOB SKEER.

L. C., a 38 year old white married woman, born in the United States, came to the Cumberland Hospital complaining of painful red spots on both legs of three months' duration. She had had marginal keratitis at the age of 9 years

and a swollen gland in the left side of the neck at the age of 10 years. Her cutaneous trouble began about seventeen years ago with red painful spots on both legs, which ulcerated. These attacks recurred at three to four year intervals. The present attack occurred three months ago with red painful nodules on both legs. The lesions were firm, hard, raised and discrete. They were red to violet and painful on palpation.

Examination shows deep red, infiltrated areas with irregular margins and some scaling. These plaques are a result of the previous nodules' becoming confluent. They are situated on the anterior and posterior surfaces of both legs, especially on the tibial regions. There are numerous nodules with normal overlying skin on the legs and thighs. There are several atrophic vacciniform oval scars on the legs. The ankles are edematous.

The blood count was normal. A Mantoux test with a dilution of 1:1,000,000 elicited a positive reaction. A roentgenogram in March 1942 was reported on as follows: "No pulmonary infiltration is noted anywhere in the chest. Calcified lymph nodes are noted in the soft tissues of the left side of the neck." A biopsy specimen was taken from the lower left side of the leg. The microscopic description and the diagnosis were as follows: The structure was keratinized stratified squamous epithelium with underlying cutis and subcutis and accessory cutaneous structures. Within the cutis and subpapillary layers many of the small vessels showed a swelling of the endothelium and a perivascular infiltrate of small and large round cells and polymorphonuclear cells. A similar infiltrate was present around the coils of the sweat glands and within the septums of the underlying fat. The diagnosis was acute vasculitis compatible with a diagnosis of erythema nodosum.

DISCUSSION

DR. D. M. DAVIDSON: When the patient first came to the clinic, the lesions were painful and tender, as is usually seen in erythema nodosum. The patient had rheumatic pains and mild constitutional symptoms. After a short time some of the lesions underwent changes, leaving purplish discolorations; others became confluent, forming plaques. The lesions during the present attack have not suppurated, but one can see scars which are sequelae of previous attacks. In spite of the history, the duration and other symptoms which are in favor of erythema induratum, the present attack is somewhat different, making this case interesting. The patient gives a history of having had pulmonary tuberculosis. When a tuberculin test was done, there was a strong focal reaction: a swelling of all the lesions. The histologic observations of the tissue removed from the leg were as follows: Most of the changes were in the vessels, which were thickened, some of them being almost completely closed. They were surrounded by a cellular infiltration, consisting for the most part of round cells with a fine sprinkling of leukocytes. There was a mild infiltration of fat cells, the beginning of the so-called fat replacement atrophy. This histologic picture can be seen in erythema induratum as well as in erythema nodosum. There were too few leukocytes for a clearcut picture of erythema nodosum, and there was a lack of fat necrosis usually seen in erythema induratum. Histologically, as well as clinically, this condition is on the borderline between the two diagnoses, erythema induratum and erythema nodosum.

DR. E. A. GAUVAIN: I should make a diagnosis of erythema induratum, not erythema nodosum. Dr. Davidson has described the course of the lesions as following that of the latter disease, including the color changes, but I see nothing to substantiate this. There are some erythematous areas, with small deep and larger superficial nodules, which are not particularly tender. Some of these have necrosed and ulcerated, leaving scars. It seems to me that one should

consider this disease erythema induratum, and from the histologic description it may be the type that has been called periphlebitis nodularis necrotisans of Phillipson.

DR. J. SCHWEIG: This patient presents a form of cutaneous tuberculosis which is unusual in the sense that it is ushered in by an erythema-nodosum-like eruption. The term erythema nodosum is purely descriptive and does not connote any etiologic factor. It may occur in syphilis, in streptococcic infections and in tuberculosis, as well as in drug allergies (iodine). It is a cutaneous reaction rather than a dermatologic entity. My concept of the disease in this case is that the initial stage is that of erythema nodosum, which is transformed later into the picture of erythema induratum. Both phases can be seen at present.

DR. LOUIS CHARGIN: I believe this case is a typical one of erythema induratum. The diagnosis is confirmed by the history of tuberculosis in the past, by the clinical signs and by the recurrence of attacks.

DR. D. M. DAVIDSON: I do not think this is a typical case of erythema induratum. The patient has erythema induratum with attacks simulating erythema nodosum.

DR. JACOB SKEER: It is not uncommon for erythema nodosum to occur in tuberculous patients, nor is it uncommon for erythema induratum to begin with erythema-nodosum-like nodules. The patient has had tender nodules on both legs and thighs for six weeks. They have become more or less confluent. At no time have there been any ulcerations. The history indicates that the lesions of the previous attacks always ulcerated and left atrophic scars. I think this patient has tuberculous erythema nodosum, probably better described as nodose erythema induratum.

Xeroderma Pigmentosum with Hydroa-Vacciniforme-Like Lesions. Presented by DR. SEYMOUR H. SILVERS.

A. G., a 13 year old school boy, the younger of two children, complained of an eruption on the upper third of the body. According to the history obtained from the mother, the eruption was noticed during the summer of 1941. She observed the appearance of freckles on the exposed areas of the body and water blisters on the nasal area. The blisters broke. Some formed crusts, and after they healed the mother noticed deep scars. The only other interesting feature of the history was the fact that the parents are first cousins.

Examination shows a healthy boy, well developed physically and mentally. The skin is dry. On the nose and adjacent areas the skin is rough and irregular. Some tense, skin-colored vesicles can be seen and felt along the margins of the ali nasi. There are from six to eight lentil-sized to pea-sized vacciniform scars on the nose and adjacent areas. The entire area of the skin of the face, neck, arms, upper part of the chest and back is covered with pinhead-sized to lentil-sized light and dark brown macules. There are a few pea-sized "fleshy" moles on the face. Photophobia is not present.

Hematoporphyrin was not found in the urine.

DISCUSSION

DR. L. M. FRUCHTBAUM: The question of hydroa vacciniforme may be proved definitely by exposing the patient to ultraviolet radiation. I personally do not think he has this disease, for the lesions would not be confined to the tip of the nose.

DR. JACOB SKEER: I agree with the diagnosis of xeroderma pigmentosum but cannot accept that of hydroa vacciniforme. The presenter stated that vesicles were present. They may have been caused by a strong sun, and the lesions left scars.

L. M. WATERHOUSE, M.D., *President*

SEYMOUR H. SILVERS, M.D., *Secretary*

May 18, 1942

Lupus Erythematosus with Oral Lesions. Presented by DR. H. L. FEIGENBAUM.

M. R., a single woman aged 35, states that three years ago a rash appeared on her face following excessive exposure to sunlight. One year ago the rash became worse and she began to tire after slight exertion. About twelve years ago she underwent a thyroidectomy. One year ago a diagnosis of lupus erythematosus was made and the patient received ten intramuscular injections of bismuth subsalicylate, without benefit. During the period of treatment lesions appeared on the oral mucous membrane. Recently the patient received intramuscular injections of 0.1 Gm. of bismarsen at weekly intervals. After the eighth and ninth injections she had nitritoid reactions. The eruption, however, showed no improvement.

There is a well defined butterfly eruption on the face, showing redness and telangiectasia but little atrophy. On the buccal mucosa and on the lips are numerous raised red papular lesions.

Several examinations of the urine showed that it was normal. The coagulation and bleeding times were normal; the result of a sedimentation test was within normal limits. The results of chemical analysis of the blood, including the cholesterol determination, were all normal. The basal metabolic rate was —8 per cent. An electrocardiogram was normal. A complete blood count showed that all the cells were within normal limits.

DISCUSSION

DR. J. SCHWEIG: While I may concede that the cutaneous lesions are suggestive of lupus erythematosus, I do not believe that the lesions of the buccal mucosa are characteristic. They are lacking such features as erosions or superficial ulcerations and the bluish red inflammatory surrounding zone; also, the vermilion border is not involved. The lesions of the mouth may have been produced by bismuth therapy, or they may be traumatic.

DR. J. SKEER: I saw this patient about three months ago. She had definite lesions on the buccal mucous membranes at that time. Tonight her condition is greatly improved. The lesions in the mouth are not due to bismuth.

DR. H. L. FEIGENBAUM: What suggestions are there for further treatment? Bismuth subsalicylate did not help her, and she had severe reactions to bismarsen.

DR. LOUIS CHARGIN: If this patient has lupus erythematosus, then not much can be accomplished by local therapy, and injections of a bismuth compound are not indicated. I have seen only 1 or 2 patients who had good results from bismuth. One should also consider the diagnosis of seborrhoea congestiva. I feel that injections of a gold preparation should be given. While it does not cure, it apparently does cause some improvement in a great many cases of this kind. This patient actually presents two problems: Is the diagnosis correct, and, if so, is it lupus erythematosus of the fixed or of the subacute variety?

A Case for Diagnosis (Granuloma Annulare? Dermatitis Medicamentosa?). Presented by DR. H. L. FEIGENBAUM.

C. D., a married woman aged 31, entered Kings County Hospital complaining of a recurrent rash on the chest for the past five years. The lesions usually appear in the spring and last for four or five months. Local applications of salves help to heal the rash. The lesions do not appear in the same place, although the chest is the usual site. Ultraviolet radiation aggravated the eruption.

There is at present on the chest an annular erythematous lesion the size of a half-dollar with an edematous border and a much less edematous and paler center, the appearance being not unlike that of a doughnut. Below this are a number of erythematous nodules in a crescentic arrangement.

The patient states that she has not taken any drugs or other medication except acetylsalicylic acid.

Granuloma Annulare. Presented by DR. SEYMOUR H. SILVERS.

D. C., an American school boy aged 15, of Italian parents, came to the dermatologic clinic of Wyckoff Heights Hospital four months ago, complaining of a red spot on the right side of the forehead, to which his mother had applied tincture of iodine. Because of the redness of the skin and scaling caused by the iodine, a diagnosis of dermatitis venenata was made, and appropriate treatment was prescribed. The mother was warned not to use iodine.

Three weeks ago the boy returned to the clinic with a new lesion on the left side of the forehead. This lesion was a pink solid, quarter-sized, edematous area, with a slight depression in the center, having the appearance of a doughnut. There were no subjective symptoms. The boy has been kept under observation for the past three weeks. During this time the lesion on the forehead underwent certain changes. The central depressed area became larger, the peripheral ring became thinner and within the last few days this ring broke into separate lentil-sized papules. The color of the lesion changed to that of the surrounding skin.

Examination shows a quarter-sized, skin-colored, circular lesion on the left side of the forehead. The border of this lesion consists of lentil-sized papules. The center is flat.

The boy was always well. He has had no serious illnesses or operations. He is the oldest of six children. The result of a tuberculin test with a dilution of 1:100,000 was negative.

DISCUSSION OF CASES OF GRANULOMA ANNULARE

DR. E. A. GAUVAIN: The woman certainly impresses me as having a drug eruption. The peculiar shade of red with the tremendous amount of edema would indicate this. The infiltration is a little greater than is usually found in drug eruptions. It is strange that a fixed eruption would occur in different places, although on questioning her I wondered if that was so. She pointed to places so close to each other that it seemed as though the eruption must have occurred in the same places.

As to the boy, I agree with the diagnosis in his case. From the history presented, the boy has had iodine applied before, and the diagnosis of dermatitis venenata might have been made.

DR. J. SKEER: I do not agree that the woman has granuloma annulare. The lesion as I saw it tonight appeared to me to be erythematous, edematous and ringed; it probably belongs to the erythema group, but there were no nodules. It is a simple inflammatory lesion.

DR. D. M. DAVIDSON: I think the boy shows a typical picture of granuloma annulare, but I believe that the history presented may be inaccurate, because the granuloma begins with papules which spread or combine to form rings. However, on clinical grounds, tonight the lesion is that of granuloma annulare.

DR. L. M. FRUCHTBAUM: Does granuloma annulare disappear so quickly without any therapy? The fact that the boy's second lesion started as an inflammatory eruption—and tonight the lesion is only half a ring, not a complete one—also militates against the diagnosis. The only way to substantiate the diagnosis would be to perform a biopsy. Clinically I should not subscribe to the diagnosis of granuloma annulare.

DR. S. H. SILVERS: The boy used only the medication I gave him, boric acid ointment and calamine lotion, which I doubt would have changed the configuration of the lesion. One of the reasons he is presented is because the history is atypical.

A Case for Diagnosis (Urticaria Pigmentosa?). Presented by DR. L. M. FRUCHTBAUM.

T. S., a Negro aged 45, came to the Lutheran Hospital on April 5, 1942, complaining of itching on his trunk of two years' duration.

There are numerous oval indurated lesions scattered over the trunk, shoulders and buttocks. The lesions appear similar to those of pityriasis rosea, but the center of each one resembles scar tissue. The color of the lesions is dark brown. The patient states that when a new lesion appears it is swollen and itchy.

The Wassermann reaction of the blood was negative.

DISCUSSION

DR. L. M. FRUCHTBAUM: Tonight the patient shows new inflammatory lesions on the chest. These, on involution, become oval, with scars in the center.

DR. E. A. GAUVAIN: This patient has a follicular hyperkeratosis; whether or not this is due to a vitamin B deficiency I am not sure. The lesions have a peculiar arrangement, all within reach of his hands, and I believe they are all traumatic in origin, secondary to the pruritus. Secondary follicular infection and furuncles are present.

DR. D. M. DAVIDSON: If this eruption is acne there should be comedos. There are a number of comedos present. The lesions seen now are those of cystic acne, and when these cysts heal they leave keloids. There are also pigmented keloids and a few active lesions.

DR. J. SKEER: The distribution of the eruption, the peculiar patterns along the line of cleavage, going down to the flanks and hips, is not seen frequently in acne. This may possibly be the kind of an eruption that occurs following the use of heavy metals, such as arsenic.

DR. L. M. FRUCHTBAUM: It would be unusual for acne lesions to attack the buttocks. Another peculiar feature is the outlines of the lesions, which resemble those seen in pityriasis rosea. The eruption does not seem to me to resemble acne.

Circumscribed Scleroderma. Presented by DR. A. WALZER.

G. G., a woman aged 38, married, was first seen in the dermatologic clinic of the Jewish Hospital, Brooklyn, about two weeks ago for a rash on the abdomen. The condition began about one year ago with a small spot, which gradually spread.

Examination now reveals an ivory white sclerotic plaque, a little larger than a palm. It is irregular in outline and on a level with the surrounding skin. The patch is surrounded by a wide, erythematous border, which fades out to a yellowish brown pigmented hue for some distance beyond. It is smooth, shiny and difficult to pinch between the fingers.

Histologic examination of a specimen from the border showed the typical picture of scleroderma.

DISCUSSION

All members agreed with the diagnosis as presented.

Book Reviews

The **Modern Treatment of Syphilis.** By Joseph Earle Moore, M.D. Second edition. With the collaboration of Jarold E. Kemp, M.D. Price, $7.00, cloth. Pp. 674, with 98 illustrations. Springfield, Ill., and Baltimore: Charles C. Thomas, Publisher, 1941.

The first edition of this splendid book appeared in 1933. Since then it has been completely revised and enlarged and contains a large amount of new and valuable information. The late Dr. Jarold E. Kemp revised the entire manuscript and contributed to many of the chapters. Indeed, the author says the book "might much more appropriately be known by the authorship of Moore and Kemp with the collaboration of Eagle, Padget and Goodwin."

The author lists eighteen major items of new interest, including two new chapters and complete revisions of several others. Minor items of new information are also scattered throughout the book.

The book is carefully written and clearly expressed and is based on an experience with 35,000 cases of syphilis at the Johns Hopkins Hospital. There is such a wealth of information that it is difficult for the reviewer to do more than mention a few of the interesting features.

The important and difficult subject of interpretation of serologic tests was completely rewritten by Dr. Harry Eagle. An outline of study for the detection of biologic false positive serologic reactions is given. In the list of certain non-syphilitic diseases which often give a positive reaction pinta is omitted, although it ranks with syphilis and yaws as having the highest incidence of positive reactions of any known disease. In speaking of seroresistance, the author says "the serologist is more often responsible for seroresistance than is disease," owing to increasing sensitivity of the tests. "Treat the patient, not his blood" is one of the author's useful epigrams.

In discussing the public health aspect of syphilis the author considers early and late syphilis as manifestations of two separate diseases, both of which need the help of public health officers. Early infectious syphilis is certainly a public health problem, and so is late syphilis, the author thinks, because it causes incapacitating disease and death. He favors routine serologic examination of patients in all hospitals, calling attention to the value of such a procedure in obstetric practice. He does not think that the provision of adequate community facilities or the control of syphilis will "start the medical profession on the path toward state medicine." He says it is unfair to expect private practitioners to treat all patients with syphilis, as at least half of them can pay nothing and a large proportion of the remainder can pay only a small part of the cost of treatment.

The author is apparently not an advocate of the intensive method of treatment by the five day drip method. From a public health standpoint, he says, this has no advantage over conventional methods of treatment, as it has shown 12 per cent of infectious relapses. In spite of the admitted shortening of the period of treatment, the results have been attained at the cost of an enormous increase in danger to the patient, as shown by a fourfold increase in fatalities and a two hundred and twenty-five fold increase in the incidence of hemorrhagic encephalitis.

The author does not think well of cutaneous tests to determine hypersensitivity to the arsphenamines. No such test, he says, is of much value.

Deaths from trivalent arsenical preparations which have occurred in the author's material were 1 in 1,250 patients (1 in 12,000 injections). He has had no fatalities from tryparsamide. From 1937 to 1940 no deaths occurred in his service from administration of 64,000 injections of trivalent arsenicals, most of which were of mapharsen. One death from bismuth occurred in the course of giving 175,000 injections.

Other new features in the book are included in the sections on infectious syphilis in relation to treatment, the oral use of bismuth, mechanical fever therapy, erythema of the ninth day and congenital neurovascular and cardiovascular syphilis.

The publisher has done his work well, the print of both text and bibliographies being large and clear.

The author and his co-workers are entitled to great credit for having written a masterpiece on the treatment of a most important disease. The book should be in the library of every physician who treats syphilis.

Ambassadors in White. The Story of American Tropical Medicine. By Charles Morrow Wilson. Price, $3.50. Pp. 372, including notes, bibliography, appendixes and index, with 42 illustrations. New York: Henry Holt & Company, Inc., 1942.

This book is a story of the fight against disease in the American tropics by physicians from the United States and Europe. It is written by a layman who has obviously made an extensive study of nutrition and of various tropical diseases, especially malaria. It represents a tremendous amount of reading as well as first hand information from various visits to the tropics. It is a most instructive book and a fascinating one to read by physicians and laymen alike.

Special chapters are devoted to the lives of such well known men as Gorgas, Walter Reed, Carlos Finlay and Noguchi. Another chapter describes the interesting career of William E. Deeks, who is not as well known to the medical profession as the others. Many other physicians are mentioned at greater or less length who have done their part in the seemingly hopeless fight against tropical diseases.

An instructive chapter entitled "Microbe Tourists" describes the introduction into Latin America from the Old World of such serious diseases as smallpox, cholera, typhus, epidemic influenza and leprosy. Even measles, which is so lightly considered in the United States, has been a deadly scourge to the Indians of Latin America.

In a chapter on "Banana Medicine," the story of the United Fruit Company is told. Praise is justly given the enlightened medical policy of the company from the time of origin. This policy was instituted primarily for business reasons and not for philanthropy. The large chain of modern hospitals and the enormous expenditure for sanitation and health of employees have certainly paid satisfactory dividends and set a splendid example to commercial concerns operating in the tropics.

The author does not hesitate to express his opinion about certain remissness of the government of the United States. This, he says, has allowed invaluable sources of rubber, tin, quinine, copra, palm oils and at least twenty other immensely valuable resources of the American tropics to be lifted from Latin America and established in Malaya, Java, Sumatra, Borneo, etc., which are now in the hands of the Japanese.

Among the tropical diseases which are considered, an adequate discussion is given of leprosy, yaws and pinta, to mention ones of dermatologic interest. While the author has evidently consulted many books and articles, references to which are given, he was just four years behind the times in describing pinta as being due to fungi.

The book contains a moderate number of illustrations which are good, and the general makeup of the book is most satisfactory. It should appeal to all who are interested in tropical medicine and in the future of Latin America.

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